

# Ontology vs. Folksonomy

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## 1 Comparison

ONTOLOGY	FOLKSONOMY
designed by knowledge <i>engineers</i>	collaboratively created by <i>users</i>
laborious	quick & easy
requires expertise	no expertise needed
hard to implement on a large scale	used on large-scale document collections
controlled vocabulary	no vocabulary control
engineer's view of the world	social aspect of meaning
formal specification of knowledge domains	informal metadata on documents
structured	unstructured (but structure emerges)
not necessarily web-based	typically web-based
essential for the semantic web	important in web 2.0 (social web)
high expressive power	low expressive power
explicit meaning	ambiguity
synonyms, homonyms etc. can be clearly stated	synonyms separated; homonyms conflated

## 2 Folksonomies

- broad vs. narrow folksonomies
- social vs. personal tagging (public vs. private tags)
- tagging behaviour can give information about language and society
- entry points to document collections: *documents* (their tags and users can be browsed), *tags* (their documents and users can be browsed), *users* (their tags and documents can be browsed)
- not just typical information retrieval, but also resource discovery

### 3 Ontologies

- facilitate interpersonal communication, human-computer interaction, inter-computer interaction
- can be extended with new predicates (known as ‘concepts’ or ‘classes’ if they have 1 argument; ‘properties’ or ‘relations’ if they have at least 2 arguments) and axioms/rules.
- How complex/expressive is an ontology? Depends on terminology. (usually frames, Description Logics, First-Order Logic; maybe higher-order logics too)
- relations of *equivalence* (e.g. ‘equals’, ‘hasOpposite’), *hierarchy* (e.g. ‘isA’/‘isSubclassOf’, ‘isPartOf’, ‘isInstanceOf’), *other associations* (e.g. ‘hasColour’)
- decisions to be made: granularity, classes vs. instances

### 4 Competing or Complementary?

Folksonomy and Ontology both:

- broaden the spectrum of knowledge representation in different directions.
- have revived discussions about metadata on the web
- have led to an increasing awareness of knowledge representation issues in scientific areas and even within the common web-user community.

Can we combine...?:

- the popularity, convenience and flexibility of folksonomies
- the semantics and high-quality structures of ontologies

Suggestions:

- query expansion within social tagging platforms (helps with ambiguity problem)

- folksonomy tags used to update ontology vocabulary
- collaborative ontology construction/engineering
- onotology and folksonomy working in tandem (e.g. in library archiving, databases etc.)

## 5 Useful Links

<http://www.ontologyportal.org/>

<http://sigmakee.cvs.sourceforge.net/viewvc/sigmakee/KBs/>

<http://protege.stanford.edu/>

<http://www.geneontology.org/>

<http://wordnetweb.princeton.edu/perl/webwn>

<http://delicious.com/>

<http://www.flickr.com/>

<http://tags.library.upenn.edu/>

<http://tagger.steve.museum/>