



SNS COLLEGE OF ENGINEERING

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

COURSE NAME : 19CS731- Social Network Analysis

III YEAR /V SEMESTER

Unit 2- MODELLING AND AGGREGATING KNOWLEDGE REPRESENTATION.

Topic 1 : Ontology And Their Role In The Semantic Web



Recall Previous Topic





2.1 Ontology-based knowledge Representation

- *It is important to separate the two: while ontologies and ontology languages have existed long before the Semantic Web.*
- SemanticWeb is to extend unstructured information with machine processable descriptions of the meaning (semantics) of information.
- Challenge of the SemanticWeb is to ensure a shared interpretation of information.
- Related information sources should use the same concepts to reference the same real world entities.
- An ontology is a shared, formal conceptualization of a domain, i.e. a description of concepts and their relationships.



Characteristics



- Ontologies are expressed in formal languages with a well-defined semantics.
- Ontologies build upon a shared understanding within a community.
- RDF and OWL are the languages most commonly used on the Semantic Web
- The most simple structures are glossaries or controlled vocabularies.
- It is hierarchy between the concepts (subclass relationships).
- Lightweight ontology is typically applied to ontologies
- Heavyweight ontologies allow to describe more precisely how classes are composed of other classes.
- Far end of the spectrum are complex knowledge bases that use the full expressivity of first order logic (FOL)

An ontology is a...

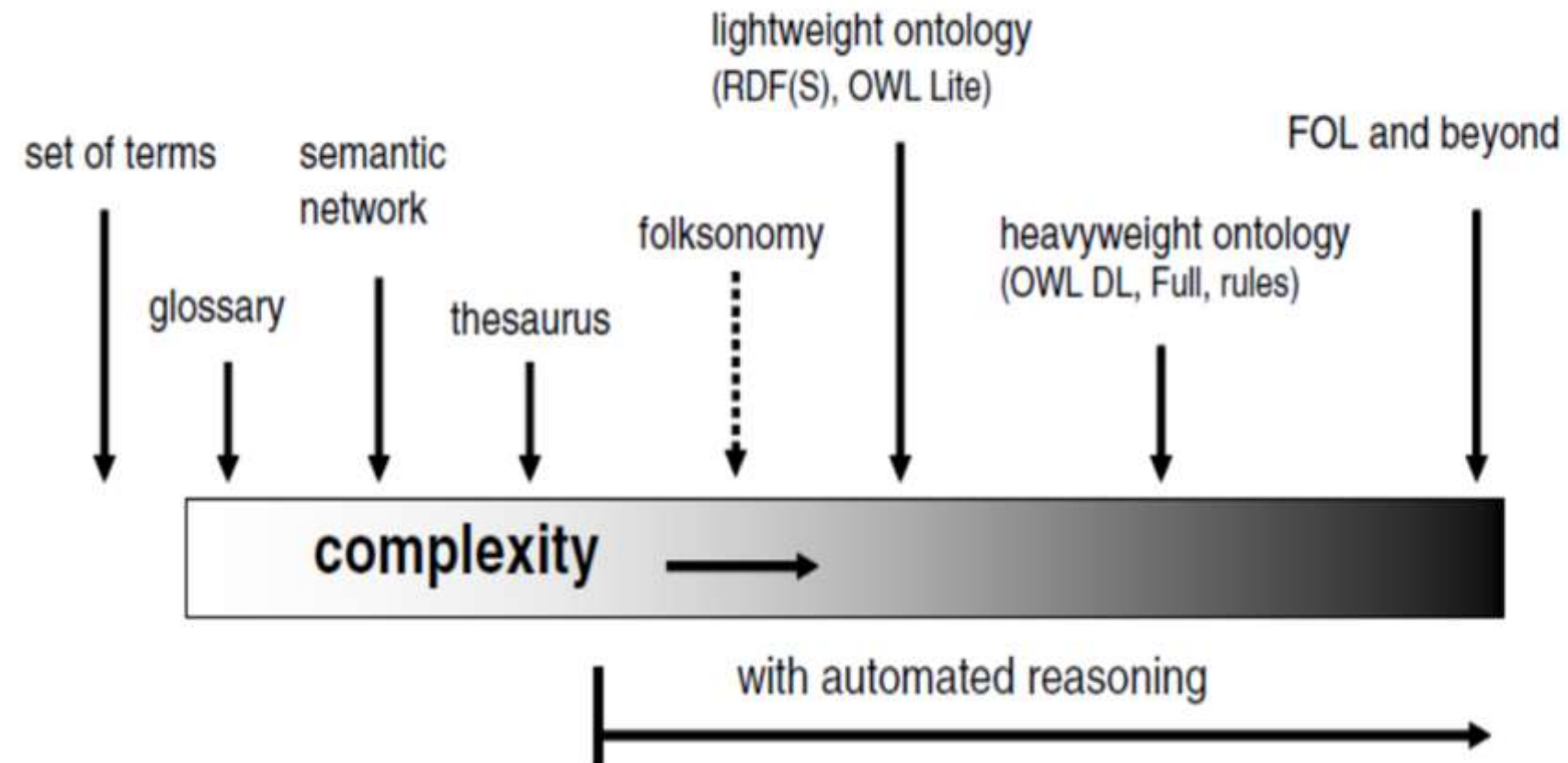


Figure 2.a Ontologies can be organized according to complexity

2.1.2 Ontologies and ontology languages for the Semantic Web

- The notion of ontologies is independent of the Web, ontologies play a special role in the architecture of the Semantic Web.

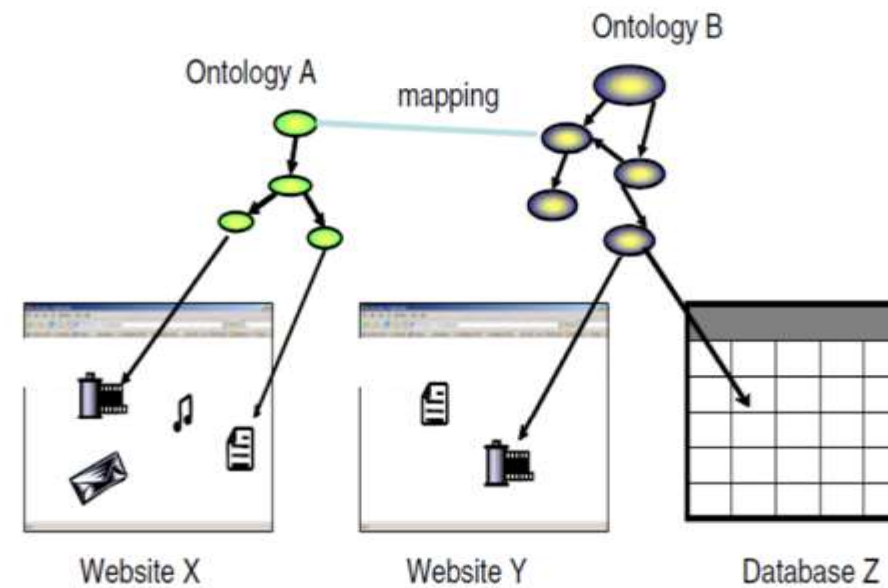


Figure 2.b The Semantic Web is envisioned as a network of ontologies that adds machine processable semantics to existing web content, including Web resources and databases



REFERENCES



1. Dion Goh and Schubert Foo ,Social information retrieval systems :Emerging technologies and applications for searching the web effectively ,IGI Global snippet,2008

THANK YOU