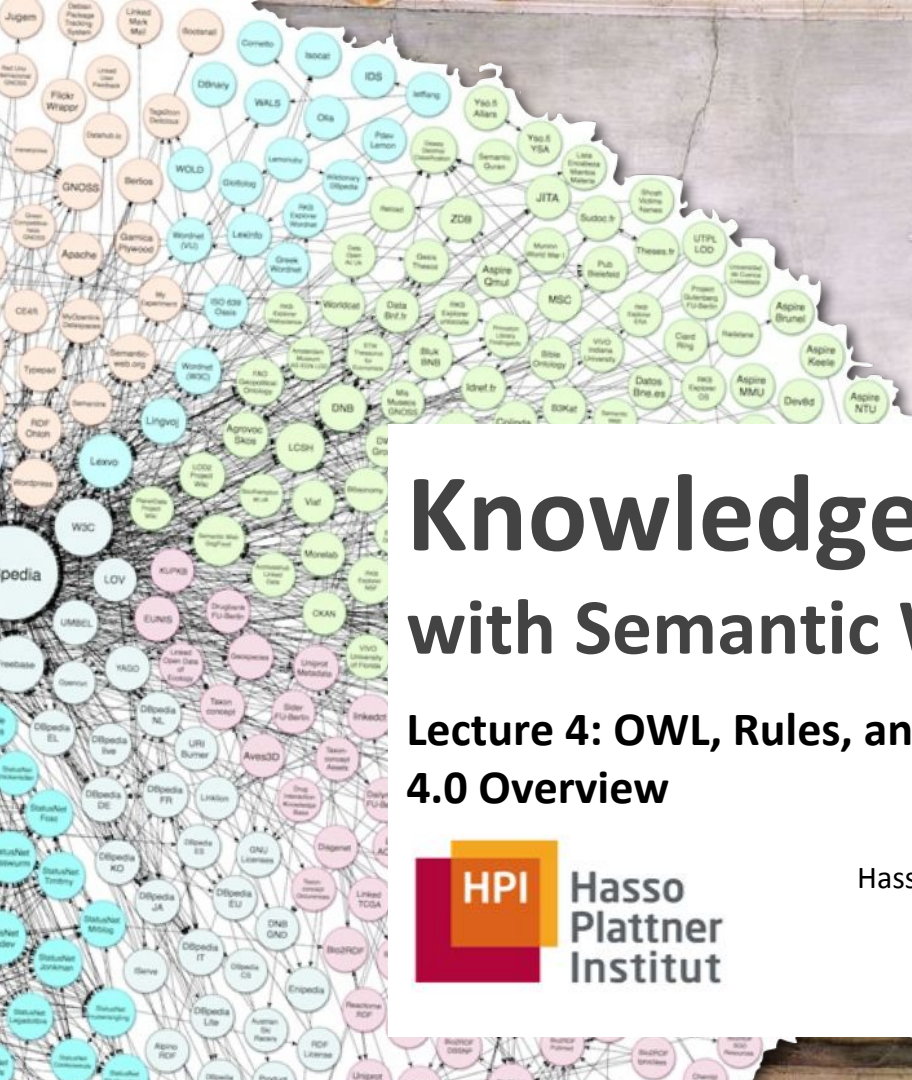


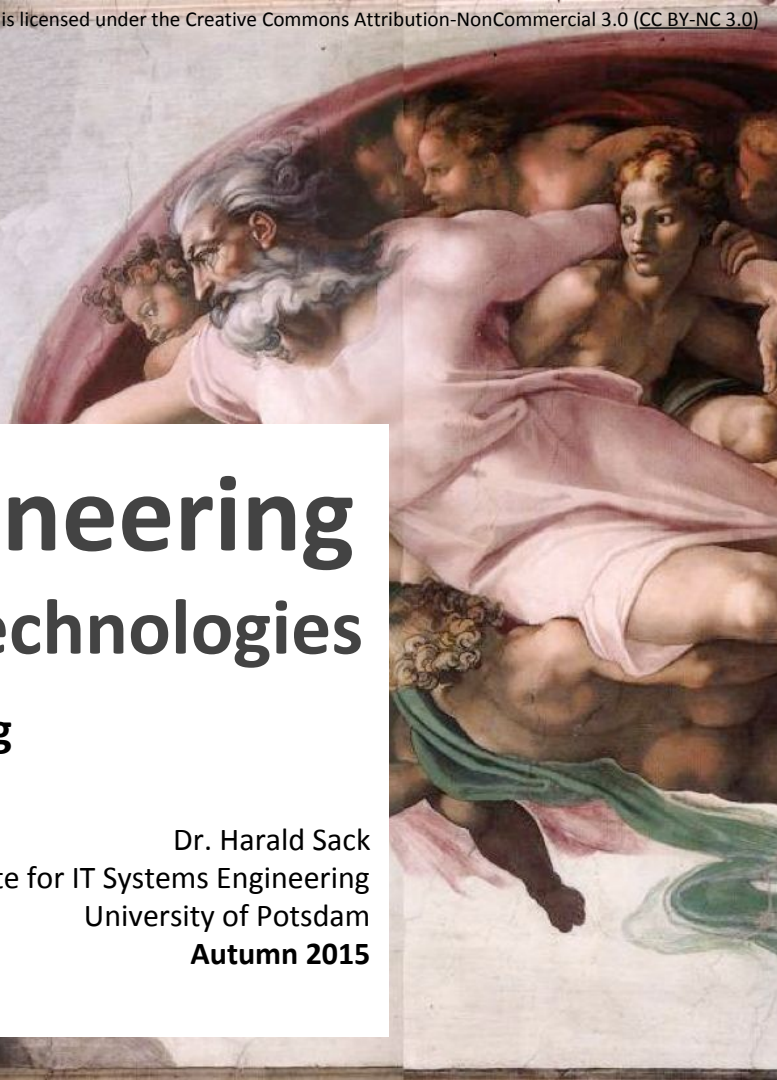


Knowledge Engineering with Semantic Web Technologies

Lecture 4: OWL, Rules, and Reasoning 4.0 Overview

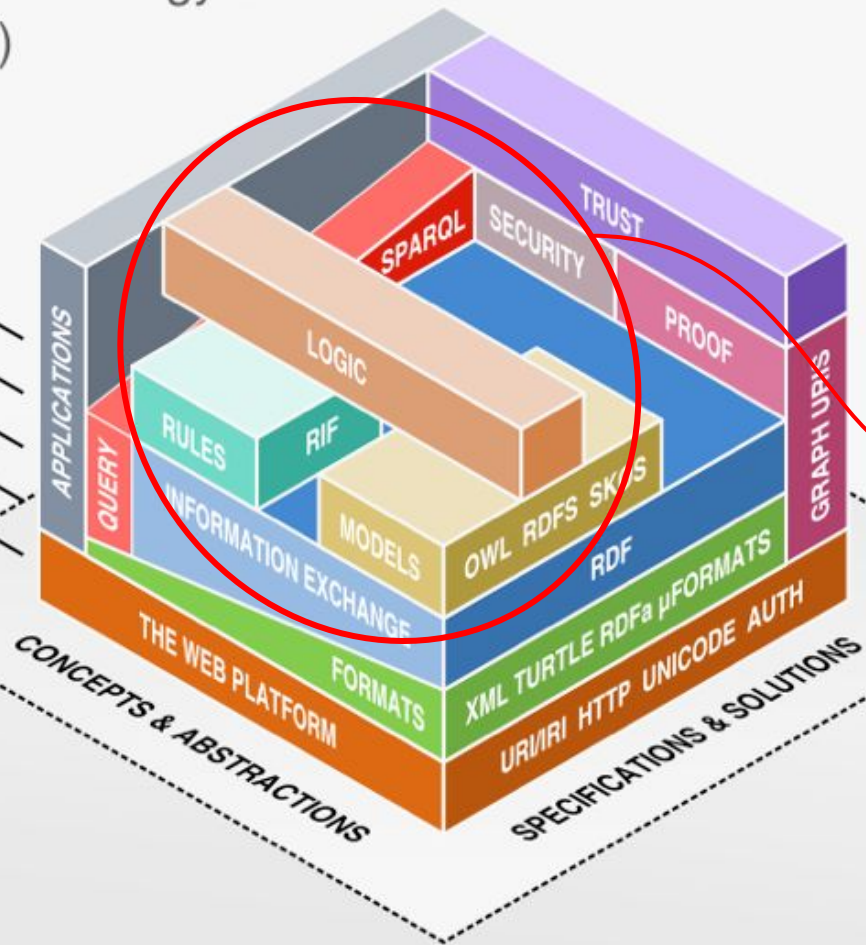
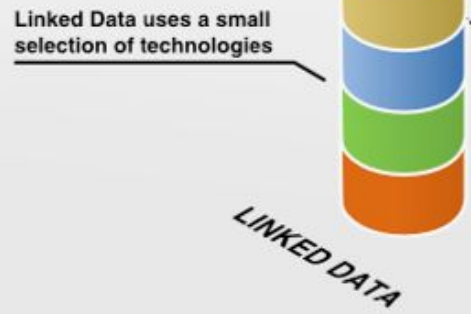


Dr. Harald Sack
Hasso Plattner Institute for IT Systems Engineering
University of Potsdam
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The Semantic Web Technology Stack (not a piece of cake...)

- Most apps use only a subset of the stack
- Querying allows fine-grained data access
- Standardized information exchange is key
- Formats are necessary, but not too important
- The Semantic Web is based on the Web



Ontology Layer

OWL, Rules, and Reasoning

- 4.1 RDFS Semantics
- 4.2 Web Ontology Language OWL
- 4.3 Classes, Instances and Properties in OWL
- 4.4 OWL Complex Classes
- 4.5 OWL Property Restrictions
- 4.6 OWL General Role Inclusion
- 4.7 Rules - Is this more than Description Logics?
- 4.8 Putting Everything Together

OWL, Rules, and Reasoning

- 4.9 EXTRA: RDF(S) Semantics (2) - Simple Interpretation
- 4.10 EXTRA: RDF(S) Semantics (3) - RDF/RDF(S) Interpretations
- 4.11 EXTRA: RDF(S) Semantics (4) - Deduction Calculus
- 4.12 EXTRA: OWL Profiles
- 4.13 EXTRA: SWRL - Semantic Web Rule Language
- 4.14 EXTRA: Rules expressible in OWL