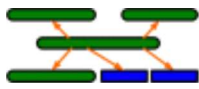


Ontologies and Semantic Web



[Introduction](#)

[Ontologies](#)

[Philosophical Roots](#)

[What is Ontology](#)

[Specification of Conceptualization](#)

[Body of Knowledge](#)

[Expressing Ontology](#)

[Formal Representation](#)

[Frame Based Models](#)

[Semantic Networks](#)

[Conceptual Graphs](#)

[Knowledge Interchange Format](#)

[Common Logic](#)

[Description Logics](#)

[Syntax and Semantics](#)

[Translation to FOPL](#)

[Reasoning](#)

[Working with Ontologies](#)

[Operations on Ontologies](#)

[Relations between Ontologies](#)

[Modularization of Ontologies](#)

[Semantic Web](#)

[Semantic Web Architecture](#)

[Resource Description Framework](#)

[RDF Graph and Syntax](#)

[RDF Elements](#)

[RDF Schema RDFS](#)

[Web Ontology Language OWL](#)

[OWL DL Semantics](#)

[OWL Example with RDF Graph](#)

[RDF Query Language SPARQL](#)

[Reasoning support](#)

[Communication between Agents](#)

[FIPA Compliant Agents](#)

[Ontologies for Agents](#)

[FIPA Ontology Service](#)

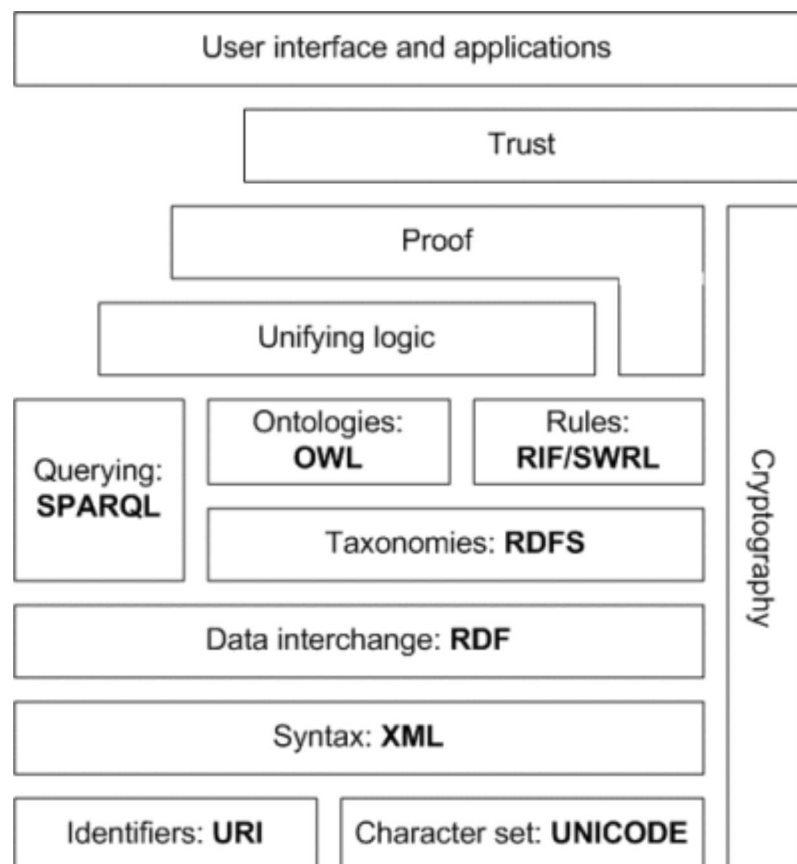
[FIPA Ontologies](#)

[About](#)

[Other Tutorials](#)

Semantic Web Architecture

The architecture of semantic web is illustrated in the figure below. The first layer, URI and Unicode, follows the important features of the existing WWW. [Unicode](#) is a standard of encoding international character sets and it allows that all human languages can be used (written and read) on the web using one standardized form. [Uniform Resource Identifier \(URI\)](#) is a string of a standardized form that allows to uniquely identify resources (e.g., documents). A subset of URI is Uniform Resource Locator (URL), which contains access mechanism and a (network) location of a document - such as `http://www.example.org/`. Another subset of URI is URN that allows to identify a resource without implying its location and means of dereferencing it - an example is `urn:isbn:0-123-45678-9`. The usage of URI is important for a distributed internet system as it provides understandable identification of all resources. An international variant to URI is Internationalized Resource Identifier (IRI) that allows usage of Unicode characters in identifier and for which a mapping to URI is defined. In the rest of this text, whenever URI is used, IRI can be used as well as a more general concept.



Semantic web architecture in layers