

The Semantic Web

Once again; with meaning

Overview

- What is the Semantic Web?
- Technologies
- Skepticism

What is the Semantic Web?

- Tim Burners-Lee

- The Vision

- Scientific American Article

What is the Semantic Web?

- Knowledge Representation
- Ontologies
- Agents

Technologies – RDF

- Resource Description Framework
- Expressing the meaning
- Triples
 - Subject, Predicate, Object

Triples

<<http://www.example.org/index.html>> <<http://www.example.org/terms/creation-date>>
"August 16, 1999"

<<http://www.example.org/index.html>> <<http://purl.org/dc/elements/1.1/language>> "en"

ex:index.html dc:creator exstaff:85740

ex:index.html exterms:creation-date "August 16, 1999"

RDF/XML

<?xml version="1.0"?>

<rdf:RDF xmlns:rdf="<http://www.w3.org/1999/02/22-rdf-syntax-ns#>"
xmlns:contact="<http://www.w3.org/2000/10/swap/pim/contact#>">

<contact:Person rdf:about="<http://www.w3.org/People/EM/contact#me>">

<contact:fullName>Eric Miller</contact:fullName>

<contact:mailbox rdf:resource="<mailto:em@w3.org>"/>

<contact:personalTitle>Dr.</contact:personalTitle>

</contact:Person>

</rdf:RDF>

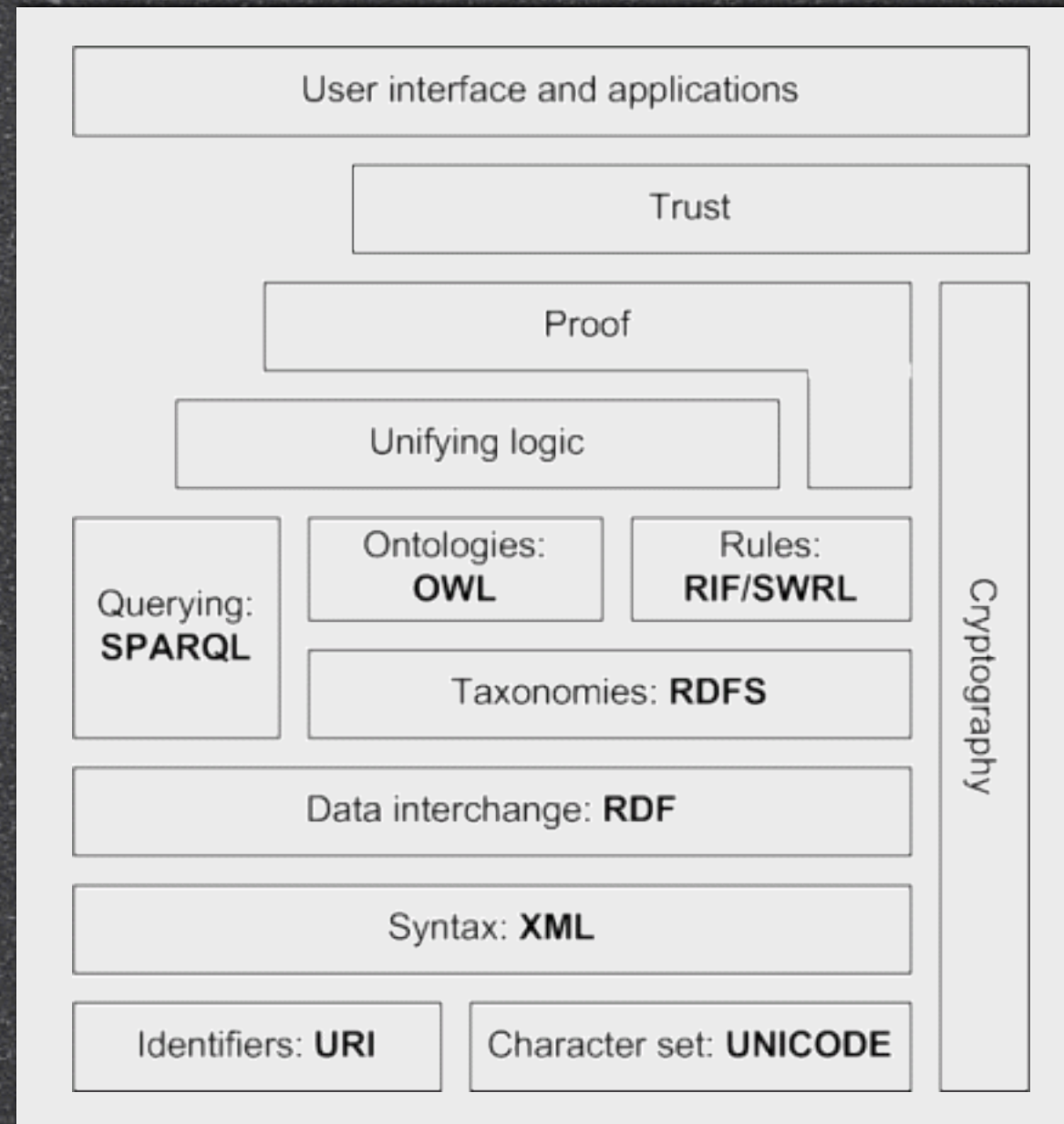
Technologies - Ontologies

- Theory about the nature of existence, of what types of things exist
- Document or file that formally defines the relationships among terms
- OWL - Web Ontology Language
 - Individuals, Assertions

Technologies - Agents

- Small programs that collect and distribute information
- Requires
 - Exchange of “Proofs”
 - Digital Signatures
 - “Yellow Pages”

Technology Stack



Skepticism

- Practical Feasibility
 - Metacrap - Steven Doctorow
 - Human Behavior
- Unrealized Idea

Skepticism

- 📌 Censorship and Privacy
- 📌 Doubling Output Formats
- 📌 Need