

Vocabulary and Extensions

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Yahoo!

Agenda

- What is schema.org today?
- Solutions for extensions
- Developing extensions
- Case studies
 - Learning Resources Metadata Initiative (AEP)
 - Technical Publishing (Microsoft)
 - rNews (IPTC)
 - GoodRelations (Martin Hepp)
- Discussion

What is a schema?

- A set of classes
 - Each with a set of attributes
 - Each attribute has an expected type (range)
 - The value may be a primitive type OR another item of given type(s)
 - Primitive types: Boolean, Date, Number, Text
- An attribute may apply to multiple classes (domains)
 - Same attribute used in multiple classes
- Inheritance among classes
 - Multiple inheritance on some classes
- Nothing else!
 - E.g. no required attributes, no cardinalities etc.

Current vocabulary

- Represents common interests of Web search users
 - Creative works: [CreativeWork](#), [Book](#), [Movie](#), [MusicRecording](#), [Recipe](#), [TVSeries](#) ...
 - Non-text objects: [AudioObject](#), [ImageObject](#), [VideoObject](#)
 - [Event](#)
 - [Person](#), [Organization](#)
 - [Place](#), [LocalBusiness](#), [Restaurant](#) ...
 - [Product](#), [Offer](#), [AggregateOffer](#)
 - [Review](#), [AggregateRating](#)
- Not covered
 - Long tail, e.g. antique coins or banana stickers
 - Domains of expert knowledge, e.g. biochemistry

Defining and using extensions

- Specialization
 - Supported by schema.org
- Vocabulary mixing
 - Not supported by schema.org
- RDF/OWL-based extensions
 - Not supported by schema.org

Specialization

- Extend an existing class, property or enum by appending a slash (/) and the more specialized term
 - Person/Engineer
 - Person/Engineer/ElectricalEngineer
 - musicGroupMember/leadVocalist
 - EBook/KindleBook
- Search engines treat such class/property the same as the base class/attribute
 - Search engines do not understand the meaning of the extension itself

Vocabulary mixing

- Create and host your own schema
- Mix properties from different namespaces

```
<div itemscope itemtype="http://schema.org/Person">  
  <span itemprop="name">Jane Doe</span>  
  <span itemprop="http://xmlns.com/foaf/0.1/age">42</span>  
</div>
```

- Limitations
 - No co-typing in microdata
- Additional attributes are ignored by search engines

RDF/OWL-based extensions

- schema.org ontology is available in OWL
- Extend schema.org using subClassOf/subPropertyOf or map to other ontologies using equivalentClass
- Not supported by search engines

Discussion forum

- W3C Web Schemas Task Force
 - Part of the Semantic Web Interest Group (SWIG)
 - Chaired by R.V. Guha
 - Open to the public
 - No patent commitment
 - public-vocabs@w3.org
- Replaces existing discussion forum

Process

- Develop and discuss
 - Gather broad industry support or adoption
- Release
 - Waiver for patent rights (in line with schema.org)
 - CC BY (attribution)
- Incorporate into schema.org
- Support in search engines and other tools

Discussion