Ontologies

Date: 2/16/07
Presenter: Brain Lowe
Title: Introduction to Ontologies: Adding Meaning to Metadata
Number Attending: 31
Total Number of responses: 21

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Several feedback forms had positive remarks about the speaker, which were forwarded to Brian only.

Topic suggestions:
- Microformats (2 people suggested) Rick Silterra
- Working with metadata inside CommonSpot
- Faceted classification Rick S.
- Large-scale interoperability between semantic sites Rick S.
- Schematron Rick S.
- Applications of metadata that require encoding uncertainty in knowledge (i.e. statement is true with prob=.5) Mingsheng Hong mh335 CS Dept

Notes made prior to the presentation:

Brian is leading this forum, with input from Keith, Michael (and Jon).

Notes from 2006-12-22:
- Include brief overview of OWL "Lite", "DL", and "Full".
- Find good example of how DTD- or XMLS-based XML can lack explicit meaning.
- Find good example where multiple inheritance is useful.

Notes from September discussion:

PART TWO:
"Ontologies"

XML DTDs and XML Schemas
- Provide structure and validation
- But the structure lacks (machine-actionable?) meaning

RDF/RDFS
- Very basic vocabulary of classes, properties, etc.

OWL
- Provides for more DTD-like constraints and validation

Classes vs. Properties
- Generic class ("Person") with specific properties ("author", "Illustrator", "authorOfComicStrips")
- OR specific classes ("Author", "WoodcutArtist", "ComicStripAuthor")

Event-based ontologies
- Everything comes into existence via an event, which can be described.
- Best for new projects, where data will be generated/collected throughout a process.
- Can be difficult to import older data that was created without an event-based model in mind.

Temptation to use modelling shortcuts
Sometimes a “pure” model would be overkill
Sometimes an “impure” model restricts future use of the data

Using existing ontologies

- Small general ontologies (DC)
- Large general ontologies (OpenCyc)
- Subject-specific ontologies (linguistics, biological, bibliographic)
- Connecting different ontologies

Intro to inferencing

- Justification for greater initial effort?

Recommendations:

- At minimum, think about whether your properties describe the object of a record, or something else.
- Use OWL schemas
- Publish your ontology and data online