

URW3 Situation Report

Peter Vojtas

Charles University Prague

URW3 Incubator group of W3C

<http://www.w3.org/2005/Incubator/urw3/charter>

*“...as work with semantics and services (on the Web) grows more ambitious, there is increasing appreciation of the **need for principled** approaches to representing and reasoning under uncertainty....interoperability nightmare caused by **proprietary** uncertainty representations, there are ancillary issues such as how to **balance** representational power vs. simplicity of uncertainty representations ... “*

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Objectives:

- To identify and describe **situations** on the scale of the World Wide Web for which uncertainty reasoning would significantly increase the potential for extracting useful information;
- To identify **methodologies** that can be applied to these situations and the fundamentals of a standardized representation that could serve as the **basis for information exchange** necessary for these methodologies to be effectively used.

In the realm of Semantic Web

- The goal of the Semantic Web initiative ... : to create a universal medium for the exchange of data... machine-understandable data on the Web
- The Web can reach its full potential only if it becomes a place where data can be shared and processed by automated tools as well as by people....programs must be able to share and process data even when these programs have been designed totally independently...

<http://www.w3.org/2001/sw/Activity.html>

URW3XG activities

- [News](#)
- [Wiki](#)
- [Deliverables](#)
- [Meetings](#)
- [Agenda and Minutes](#)
- [About the Uncertainty Reasoning for the World Wide Web XG](#)
- [Public mailing list](#)

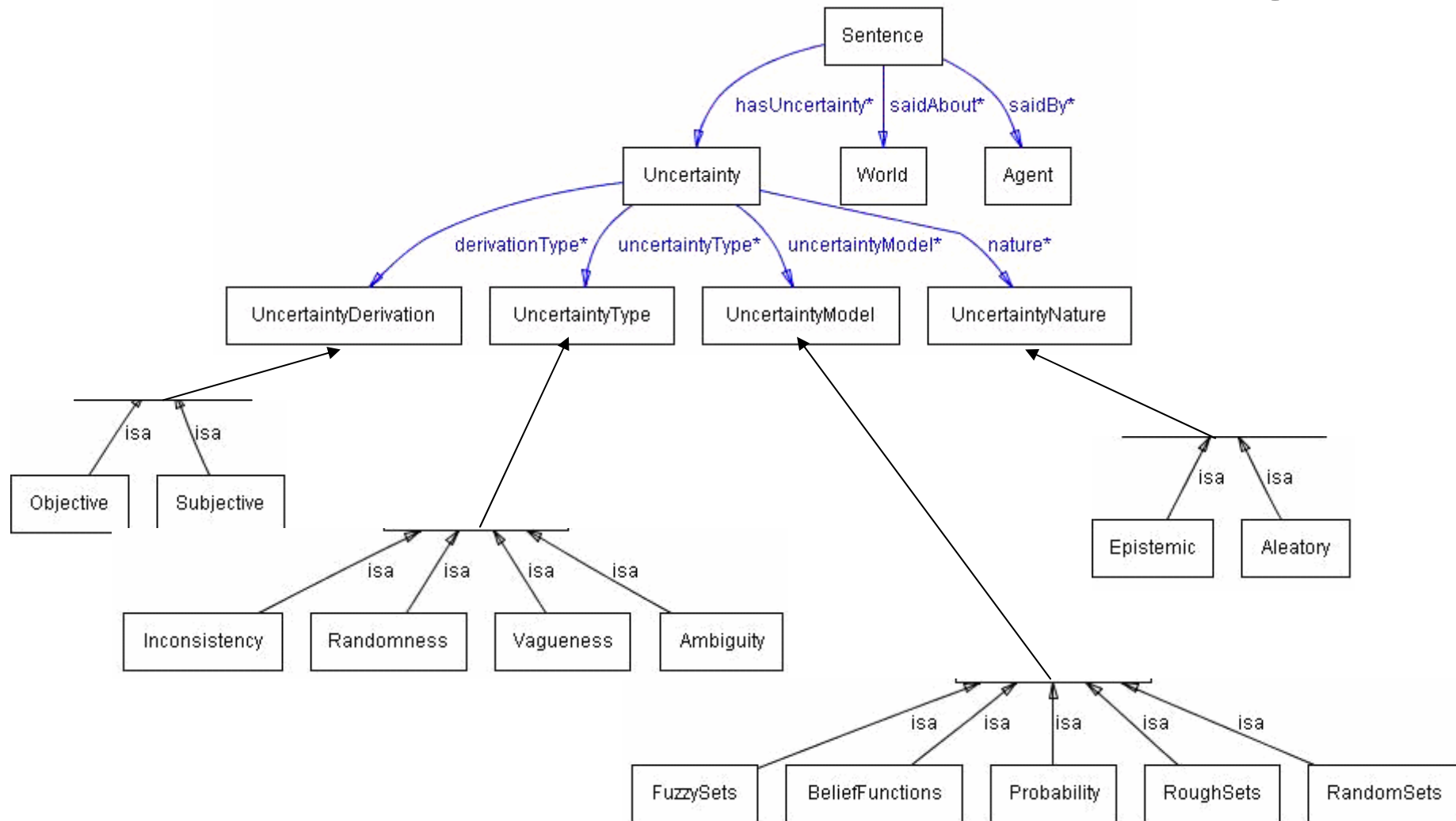
Use cases

- [Discovery](#)
- [SOAExecutionContext](#)
- [AppointmentMaking](#)
- [WineSweetness](#) (from URSW 2006)
- [Recommendation](#) (from URSW 2006)
- [Other Use cases from URSW Workshop 2006](#)
- [Use Cases from the Charter](#)
- [Extraction-Annotation](#)

Use cases

- User preference modelling for top-k answers
- Belief fusion and opinion pooling
- Soft Shopping Agent
- Ontology Mediated Multimedia Information Retrieval
- Ontology based reasoning and retrieval from large-scale databases
- What is web specific versus problems that are hard even on your computer
- Collection of Uncertainty Examples/Use Cases from the Healthcare and Life Sciences

Work on uncertainty ontology



Where we are today

Recall Objectives:

- To identify and describe **situations on the scale of the World Wide Web** for which uncertainty reasoning would significantly increase the potential for extracting useful information;

... Use cases...web scaled situations

...uncertainty reasoning applies

...significantly increases

extraction of useful information

Where we are today – ctnd.

- To identify **methodologies** ...applied to these situations a systematic set of models, methods, and processes for doing some task
 - ... identify how to **annotate** resources to be able to employ the methodology,
 - ... **evidence** for uncertainty claims...e.g. referee accepts paper with such claims
 - ... annotation (RDFa, HTMLa, GRDDL) by author, third party,...

Where we are today – ctnd.

- ... standardized representation - **basis for information exchange** necessary for these methodologies to be effectively used.
- **UIF = Uncertainty Interchange format**
- Probably we start in well constrained and organized domains (e.g. health care)
- **Ultimate goal** - Programs to share and process uncertain data
- **Challenge** – combination of different types of uncertainty, ...other challenges?

Welcome to our discussions

Thank you

Questions?