Ontology Summit 2014

Big Data and Semantic Web Meet Applied Ontology

Track C: Overcoming Ontology Engineering Bottlenecks

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Background

Ontology Engineering is the development and use of ontology in any form as all or part of some system. This includes such areas as data integration, data mining, expert systems, data semantics and reasoning. Sometimes there are barriers to the use of ontologies because of the cost of development and deployment or the timeliness of being able to deliver solutions. This track aims to seek out the bottlenecks that represent the current barriers to use of ontologies and point towards the solutions or work towards the resolution of those bottlenecks.

Mission and Scope

The mission of track C is to **identify bottlenecks that hinder the large-scale development and usage of ontologies and identify ways to overcome them**.

Bottlenecks include

- Ontology engineering processes that are time consuming,
- Social, cultural, and motivational issues
- Modeling axioms or knowledge representation language fragments that cause difficulties in terms of an increase in reasoning complexity or reducing the reuseability of ontologies
- The identification of areas and applications that would most directly benefit from ontologies but have not yet considered their use and development.

Potential Solutions include

- Tools and techniques,
- Research findings and methods, guidelines, documentation, and best practice,
- Automation
- The combination of inductive and deductive methods to scale the creation of axioms
- The development of a set of reusable patterns that can ease ontology development and alignment
- The identification of purpose-driven modeling granularities that provide sufficient semantics without over-engineering
- Lessons learned from ontologies that are seeing wide adoption
- The development of tutorials and other educational materials

Pre-requisites

The track is not only concerned with the outline of possible resolutions to the bottlenecks identified but also with the identification pre-requisites to addressing the challenges, which might include agreements that need to be reached, or capabilities to be developed.

Track Plan Outline

1. Examine the processes to develop and use of ontology like artefacts in various contexts and identify where the weight of effort falls.

2. Look for opportunities to simplify or automate problem processes.

3. Develop an outline to debottleneck the process, and identify any pre-requisites

Next Steps

1. Select a diverse set of speakers that are able to represent theoretical as well as applied perspectives.

2. Promote discussions during the virtual sessions as well as afterwards in preparation of the face-to-face meeting to identify the key challenges for identifying and overcoming bottlenecks.

3. Work with the speakers and attending community to arrive at a representative summary for the face-to-face meeting.