Use Case Challenge

Uncertainty Reasoning for the Semantic Web Workshop

5 November 2006

Goals

- **Long-term: collect wide range of prospective use cases**
  - Wide range of problems and wide range of potential approaches to representing associated uncertainty
  - Assembling collection does not imply that future work will necessarily find single format for entire range of use cases and approaches
  - Will have good indications of what is and is not covered
- **Today: Use Case Challenge**
  - initial collection of ideas
  - gauge interest of continuing discussion as W3C XG

Use Case Template

■ **Sample distributed before workshop**

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Uncertainty Reasoning for the Semantic Web

USE CASE CHALLENGE

Use Case Title: Discovery

Version	
Date/Time	25 October 2006
Original author	Ken Laskey
Last Modified By	Ken Laskey
Primary, Secondary Actors	Primary: Secondary:
Application domain	
Triggering event	

Purpose/Goals (Summarize what the use case is to accomplish)

Given a populated catalogue of items and a user's criteria for a particular item potentially listed in the catalogue, identify the best match.

Issues and Relevance to Uncertainty (Summarize how relevant to uncertainty reasoning and representation?)

Terminology mismatches may make it difficult for the system to find the class of items the user intends.

Given the class of items, the user may not unambiguously understand the meaning of the properties by which the class is described.

Given a set of properties of interest to the user, there is uncertainty in trading off the user's target property values against those of items in the catalogue.

Assumptions/Preconditions (List the preconditions necessary for this use case to occur, including description of necessary context)

- The   catalogue has been populated using a property set and property values that have a machine processable representation of the vocabulary used
- A   similar machine processable representation exists for the vocabulary used to state the search criteria.

Required resources (List resources, such as data sources, ontologies, needed for scenario)

1. Populated catalog
2. Description of catalog property and value vocabularies.
3. Description of user property and value vocabularies.

Successful End (Describe what happens if this use case is successful)

The user finds an item sufficiently close to their search criteria and is not hampered by vocabulary differences with those who populated the catalogue.

Use Case Ideas

- ***Discovery*** – Given a populated catalogue of items and a user's criteria for a particular item potentially listed in the catalogue, identify the best match.

- ***Appointment*** – Schedule an interaction with a provider of a business service (e.g., doctor, lawyer, etc.), taking into account geographic proximity, schedule constraints of consumer(s), schedule constraints of provider, other (?) constraints.

- ***Execution Context*** – Establish the set of conditions that ensures a prospective consumer of a SOA service has identified the appropriate service to address its needs and to ensure for a possible provider of a SOA service that the consumer is authorized to use the service. In addition, the consumer and provider must agree on specifics of message exchange and the semantics of the exchanged messages, both message type and content.

- ***Bioinformatics*** – Multiple concurrent users in disparate locations remotely extract records from biogenetics repository while maintaining consistency of records.

- ***Emergency Rescheduling in Transportation Network*** – Bus, rail and/or airlines have constrained schedules. When an emergency (e.g., weather, terrorist event) disrupts operations, connections and crews have to be rescheduled.

- ***Geospatial Reasoning*** – Find best route between points in space; determine whether a point in space can be seen from another point in space; determine whether a vehicle can travel over a piece of terrain…

Remainder of Session

- **First 30 minutes**
  - Break into groups and consider relevant use cases
  - Begin to fill out new use case template
- **Last 30 minutes**
  - Each group briefly presents use case idea
  - Gauge interest in continuing
    - as W3C XG
    - through other means