



Ontology Summit2007 Survey Response Analysis -- Issues

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Survey Questions

- a. What 'value' does 'ontology' or 'ontological engineering' bring to your constituency (or sub-constituency)?
- b. What 'issues' are being encountered in bringing 'ontology' or 'ontological engineering' into your community?
- c. Can you state 'specific problem(s)' on which help is needed?
- d. Can you suggest (technology or community) solution(s) to the issue(s) mentioned above?

Communities

- Applications Development, Software Engineering and Information Model communities
- BIM and CSI specifications
- Biomedical communities
- Business Process and Project Management Communities
- Concept Map community
- Enterprise Architecture Communities
- Electronic business
- Formal ontology communities
- Genomics
- Information management
- Industry Research
- Knowledge base user communities

Communities

- Linguistic communities
- Legacy Systems Reengineering communities
- Metadata communities
- Multilingual Architectures
- System Architecture communities
- Standards Development communities
- Semantic Web communities
- Thesauri community
- Topic Map community
- Taxonomy communities
- Web 2.0 communities
- XML communities

Values

- Semantic interoperability and communication (14)
- Semantic integration (13)
- Logical reasoning (9)
- Machine interpretable/representable (9)
- Semantic classification (7)
- Semantic search and access (7)
- Adherence to the human domain (5)
- Reduction of cost and risk (5)
- Harvesting from legacy systems (3)
- Human collaboration (3)
- Modeling business processes (3)
- Semantic data modeling and relationships (3)
- Decision support (2)
- Sensemaking (2)

Other Values

- Better level of abstraction
- Bringing AI/KR to DB systems
- Central to the community
- Content management
- Control of templates
- Education
- How the world is wired up
- Information fusion
- Modeling a person's background and skills
- Ontology has a bad reputation
- Reliability and consistency
- Semantic discovery
- Semantic guidance
- Semantic mashups
- Semantic navigation
- Upper ontologies

Issues

- Education (12)
- Demonstrate utility (7)
- Development methods (6)
- De-mystifying and simplifying ontologies and ontological terminology (5)
- Cooperation among different groups (4)
- Lack of common understanding of what is meant by an ontology (4)
- Lack of expertise in ontology development (3)
- Difficulty of converting legacy knowledge (2)
- Gap between academics and industry (2)
- Lack of an upper ontology (2)
- Resistance to disruption of the status quo (2)

Other Issues

- Achieving balance between expressivity and computational requirements
- Clear identification of referents
- Difficulty and effort required for producing high quality annotations
- Disagreements among experts
- Intractability of reasoning
- Lack of an open, well-maintained clearinghouse for ontologies and related products and services that are enabled by them
- Lack of motivation to create a standard
- Lack of ontologies for various domains
- Lack of tools
- Reusability of ontologies
- Should not be left to the logic of the mathematicians
- Slow rate of adoption
- Tool incompatibilities
- Unification of data and exploitation the unified data

Problems

- Education (10)
- Development methods (7)
- Lack of common understanding of what is meant by an ontology (6)
- Demonstrate utility (4)
- Mappings among ontologies (4)
- Developing consensus on a common foundation ontology (3)
- Lack of an open, well-maintained clearinghouse for ontologies and related products and services that are enabled by them (2)
- Too many ontology standards and languages that are not compatible (2)

Other Problems

- Complexity and cost
- Cooperation among different groups
- De-mystifying and simplifying ontologies and ontological terminology
- Developing, verifying and validating ontologies
- Lack of an identifying scheme for biomedical entities
- Lack of extensive ontology experience
- Lack of usable ontology language
- Missing predicates in tagging solutions
- Navigation
- Ontology has a bad reputation
- Overemphasis on formal logic
- Scoping
- Uncertainty

Solutions

- Methods for developing, verifying and validating ontologies (5)
- Cooperation among different groups (3)
- De-mystifying and simplifying ontologies and ontological terminology (3)
- Agreement on what is meant by an ontology (2)
- An open, well-maintained clearinghouse for ontologies and related products and services that are enabled by them (2)
- Demonstrate utility (2)
- Education (2)
- Examples and use cases of potential applications (2)
- More research (2)
- Reasoning about causality, conflict, uncertainty, and diverse value systems (2)
- Semantic social computing (2)
- Upper ontologies (2)

Other Solutions

- Architectures that map opinions and expertise
- Conceptual modeling
- Embed in an upper ontology
- Logic programming
- Methods for automatic acquisition of ontologies
- Money
- More coordination among existing research groups
- More practice less theory
- ODM
- Reduce the complexity of OWL
- Rewards for building on existing ontologies
- Semantic processing
- Use of theory
- Visual languages
- iTags and TagCommons