Ontology Summit 2007
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

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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