
Ontology Summit 2011
Track 3
Value Metrics & Value Models
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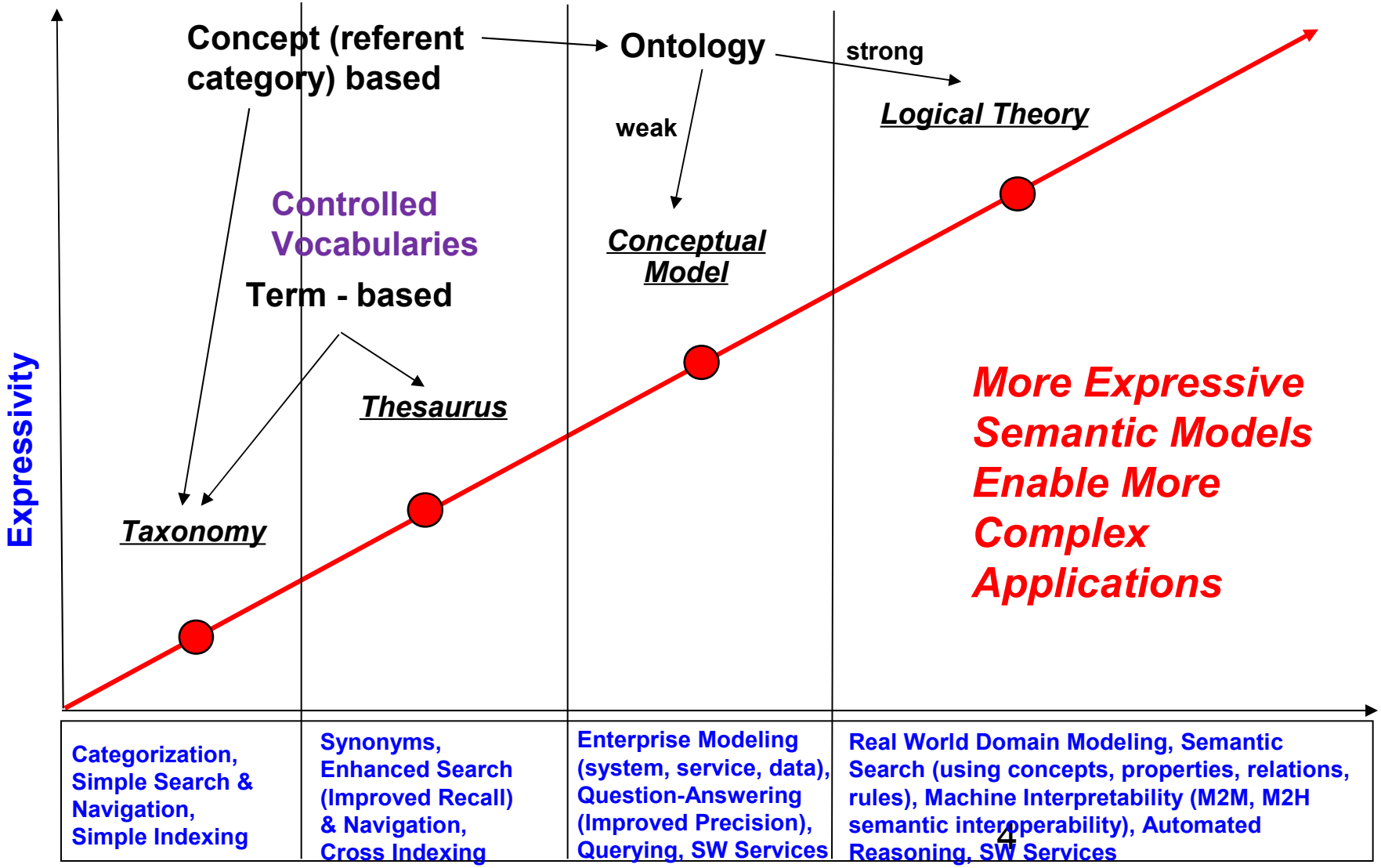
Track 3 Objectives

- Identify stakeholders for which the metrics and value models are important
- Identify useful metrics and value models for Decision Makers
- Provide metrics that support the Track 1 Ontology Application Framework

Expectations

- Focus on metrics that address ROI
  - What metrics demonstrate the (monetary) value of using ontologies and semantic technologies from a systems development perspective?
- Derive consensus on useful metrics & models for decision makers and architects
- Different technologies (see next slide) require different metrics

Ontology Spectrum (Leo Obrst)



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Starting Points

- Software metrics
- Software effort estimation models
- Function points
- Value Engineering
- System Lifecycle models
- Technology Readiness Levels
- Simple list of relevant dimensions – each has sub-dimensions
  - Cost
  - Risk
  - Value

Relevant Metric Dimensions?

- Robustness - Ability to meet or exceed required performance requirements; Stability.
- Modularity - Ability to expand or be integrated with other ontologies
- Affordability - Does the ontology development fit the cost window of the program?
- Producibility - Does the ontology include aspects that have negative cost or schedule implications?
- Clarity - Does the ontology potentially have hidden problems associated with it or does its use imply subtle life cycle considerations?
- Simplicity of the architecture and its elements.
- Maintainability – Can the ontology be easily maintained?
- Verifiability – Can the ontology be tested? Is the ontology designed for test?
- Portability - Can the ontology be re-used? Can the system that use it be transported?
- Reliability - Does the ontology promote predictable performance? Does use of the ontology have weak points that may cause intolerable levels of failures?
- Accuracy/Fit for Purpose - Does the ontology meet system goals? Does it perform within required tolerance bounds?
- Security – Are there any security issues either with the content or the use?
- Scalability - Is it easy to extend the ontology or add ‘capacity’ to a system?
- Usability - Will the system be usable in the situations that it is intended for and does it require skills and capabilities within the range of its intended users?
- Efficiency - What is the cost of performance of the system?
- Safety – Is intended use in a safety critical system?

Possible Value Models

- Cost-based
- Risk-based
- Feature-based
- Extensibility-based
- Value-based
- Hybrid?

Possible Deliverables

- Dimensions of metrics for using ontologies and semantic technologies relevant to ROI (in the context of systems development)

- Metric(s) and values for each category of the Ontology Application Framework (Track 1)