Interoperate with whom?
Archaeology, Formality & the Semantic Web

Leif Isaksen, Kirk Martinez & Graeme Earl
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Interoperability: a definition
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- “The ability of two or more systems or components to exchange information and to use the information that has been exchanged.” [1]

Formality Considered Harmful: Problems

1. Cognitive Overhead
2. Tacit Knowledge
3. Enforcing Premature Structure
4. Different People, Different Tasks: Situational Structure [1]

Formality Considered Harmful: Strategies

1. Identify Essentials for Task
2. Evaluate Cost/Benefit Trade Off
3. Gradual Formalization and Restructuring
4. Ephemeral Structure on Demand
5. Training, Facilitation and Intervention [1]

(Really) Fragmentary Data
Identify Essentials for Task
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Cost/Benefit Trade Off

Table -> Ontology Mapping
Gradual Formalization/Restructuring

Excavation URI generation

Context URI generation
Ephemeral Structure on Demand

Typology prediction

Type prediction
The End?
Interoperability revisited
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Interoperability revisited

“The ability of two or more systems or components to exchange information and to use the information that has been exchanged.” [1]

“A property referring to the ability of diverse systems and organizations to work together (inter-operate). The term is often used in a technical systems engineering sense, or alternatively in a broad sense, taking into account social, political, and organizational factors that impact system to system performance.” [2]


2. Wikipedia. ‘Interoperability’ (16 Feb 2010)
Formality Considered Harmful revisited

- Formality as a trade-off:
  - Improves computational power
  - Increases difficulty for users
  - If effort increases with power, *total* interoperability (i.e. accounting for all needs) becomes self-defeating
  - Every user finds a balance
The Goldilocks Effect

Cost/Benefit path of ‘complexity deferring’ technology (e.g. MS Access, HTML)

‘Complexity debt’ causes long-term scalability problems
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Cost/Benefit path of ‘Front-loading’ technologies (e.g. Semantic Web)

High barrier to entry reduces no. of participants
The Goldilocks Effect

Ideal Interoperability Cost/Benefit path has shorter ‘wavelength’, increasing the no. of pay-off points
Interoper-abilities: A proposed roadmap

- Informal Data
Interoper-abilities: A proposed roadmap

- Informal Data
- Formal Data = Informal Data + Standard terms
Interoper-abilities: A proposed roadmap

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- Public Data = Formal Data + Stable URLs
Interoper-abilities: A proposed roadmap

- **Informal Data**
  - **Formal Data** = Informal Data + Standard terms
- **Public Data** = Formal Data + Stable URIs
- **Semi-antic Data** = Public Data + Standard URIs
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- Semantic Web = Linked Data + Ontologies
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- **Web 3.0** = Semantic Web + Other Web Tech
INTEROPERABILITY NEEDS YOU