Smart Data for Smart Software

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Semantic Web in One Day

- Ontology Learning
- TextToOnto
- query expansion
- Information Retrieval
- Query Refinement
- personalized classification schema
- ontology generation from metadata and abstracts
- Peer-to-Peer Bibliographic Metadata
- Bibster
- search over full texts and abstracts
This was actually in 2004.

This worked, because there was an implicit agreement on data and metadata \textit{formats} and on general \textit{methodology}.

In this case: Semantic Web standards RDF and OWL, and corresponding technical and methodological approaches.
Data: Wind direction “north” at 10 km/h

Depending on usage, you may need
- is direction “to” or “from”?
- granularity of measurements
- provenance of this information
- information about the sensor device
- conditions in which measurements were taken
- etc.
Where’s your (meta)data?

Smart Software:
Context information is (implicit) in the code.
Where’s your (meta)data?

Smart Data:
Context information is explicitly given as metadata.
The Snag

- Your metadata becomes somebody else’s data.
- To be really useful, metadata needs to be well-constructed and well-documented.

“This example proves that hammers are useless”
Complex notions

- paleologic age
- point of interest
- river
- sample
- location
- name
Agent Role Pattern

Figure 2.1: ⟨AgentRole⟩ pattern
Peter Wiebe was found to have the following roles

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<th>Role</th>
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Conclusions

Put the smartness in the (meta)data.

Make smart software which can ingest the metadata and adapt to it.

Smart data enables smart software!
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