

(Part of)
Chapter 8
Conclusion and Outlook

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What is the Problem?

- Consider a typical web



- Markup consists of:
 - rendering information (e.g., font size and colour)
 - Hyper-links to related content
- Semantic content is accessible to humans but not (easily) to computers...

What information can we see...

WWW2002
 The eleventh international world wide web conference
 Sheraton waikiki hotel
 Honolulu, hawaii, USA
 7-11 may 2002
 1 location 5 days learn interact
 Registered participants coming from
 australia, canada, chile denmark, france, germany, ghana, hong kong,
 india, ireland, italy, japan, malta, new zealand, the netherlands,
 norway, singapore, switzerland, the united kingdom, the united states,
 vietnam, zaire
 Register now
 On the 7th May Honolulu will provide the backdrop of the eleventh
 international world wide web conference. This prestigious event ...
 Speakers confirmed
 Tim berners-lee
 Tim is the well known inventor of the Web, ...
 Ian Foster
 Ian is the pioneer of the Grid, the next generation internet ...

What information can a machine see...

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Where Will the Ontologies Come From?

- Some large ontologies are becoming de facto standards
 - WordNet
 - NCIBI's cancer ontology
- Many small ontologies
 - are hand-created (e.g. RosettaNet) or
 - Created automatically through machine learning, natural language analysis and from legacy sources (e.g. data schemas)

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Chapter 8

A Semantic Web Primer

Where Will the Semantic Markup Come From?

- Clearly not by hand
- Tools for new information resources
- Natural language techniques, borrowing from legacy sources for old resources

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Where Will the Tools Come From?

- Large variety of tools already exists
 - Editors, storage, querying and inferencing, visualization, versioning
- Mostly developed in academic domain
- ... but taken up in the commercial sector
 - Highly innovative startups

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How Should one Deal With a Multitude of Ontologies?

- A big research question, still open
 - A potential bottleneck
- Various approaches currently tested
 - Negotiation
 - Machine learning
 - Linguistic analysis

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Promising Areas for Initial Successes

- Knowledge Management
 - ... because of central authority
- E-Science
 - Use ontologies, are informed and enthusiastic users of new technology
- E-Commerce probably later
 - Problems with privacy, security and trust