LOD and Schema.org Panel

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Problem domains

- **Syntax:**
  - Which representation and interchange format for metadata? (Microformats, RDFa, Microdata)

- **Semantics:**
  - Which metadata are allowed for Web resources (expressiveness, metadata vocabulary, schema)

- **Association problem:**
  - How to connect metadata with resources? (who defines the metadata, are metadata separated from the content, etc.)
Requirements

- Functional Requirements
  - e.g., expressiveness, ...

- Non functional requirements at design time
  - e.g., composability and extensibility, interoperability, declarative implementability, modifiability and evolvability, reusability and interchangeability, ...

- Non functional properties at runtime
  - e.g., usability, understandability and explanation, correctness and quality, scalability and efficiency, safety and information hiding (need-to-know principle), ...
WHY ARE STANDARDS NECESSARY AND USEFUL?

Standards should be based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits.
Some Selected Challenges …

- Expressiveness and extensibility is important
  - Microdata vs. RDFa

- Quality and semantics matters
  - Metadata without semantics and quality maintenance is just more data
  - Automated interpretation and transformation of data into meaningful information and knowledge needs semantics (ontologies, multi-lingual context, cultural context, …)

- Without usability and pragmatics there will be no acceptance of a standard
  - Rich user-centric tool support
  - Pragmatics in terms of training and incentives for additional metadata annotation needed

- The Web is a rapidly changing „eco-system“
  - Updates, evolvability, robustness in unforeseen situation is needed
  - Stored and materialized Web of Data + Real-time data streams and event clouds