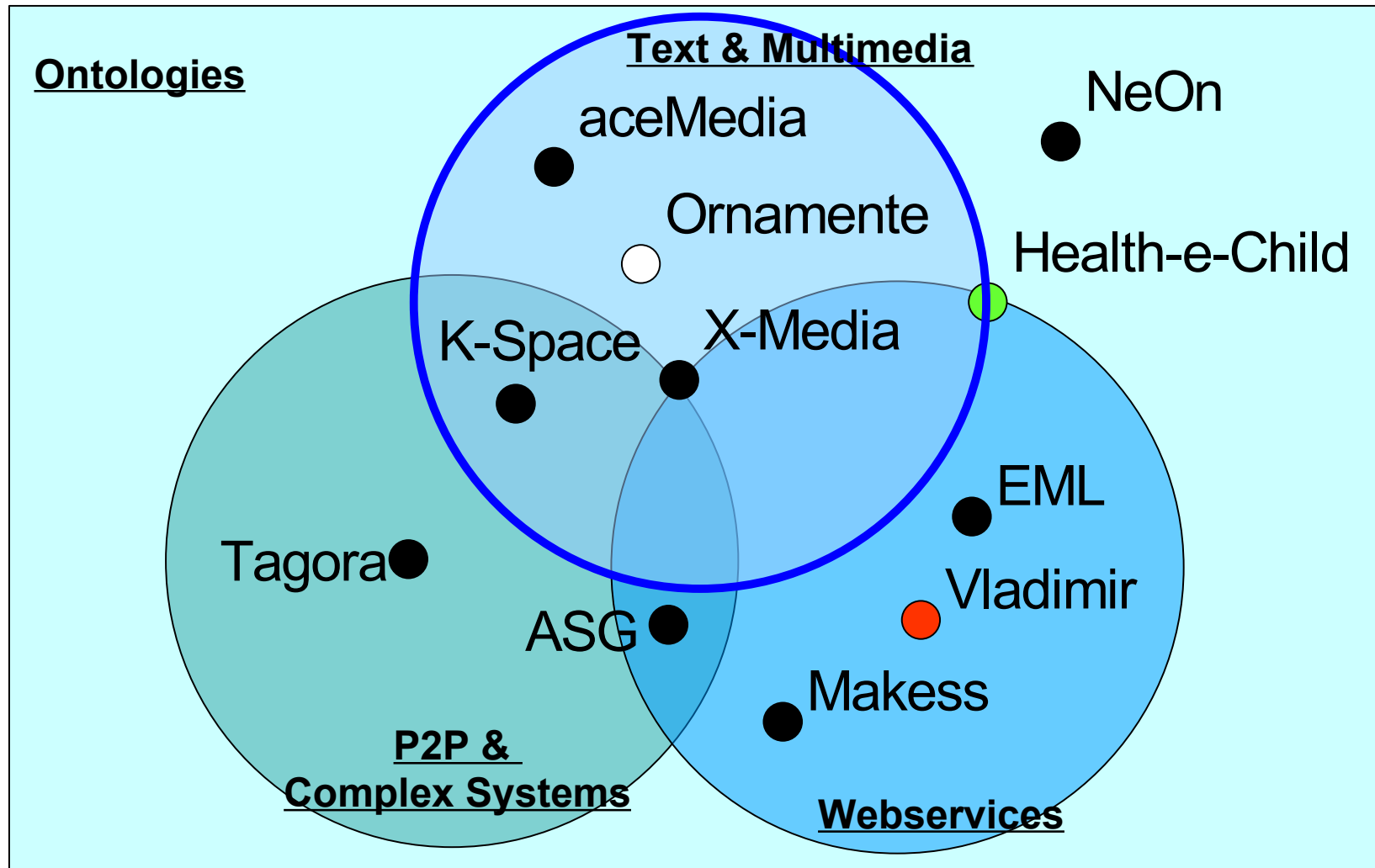


1st Face to Face Meeting of the W3C XG Multimedia Semantics
ISWeb @ XG MMSEM
Thomas Franz





<isweb> What we would like to do... vs What we can do

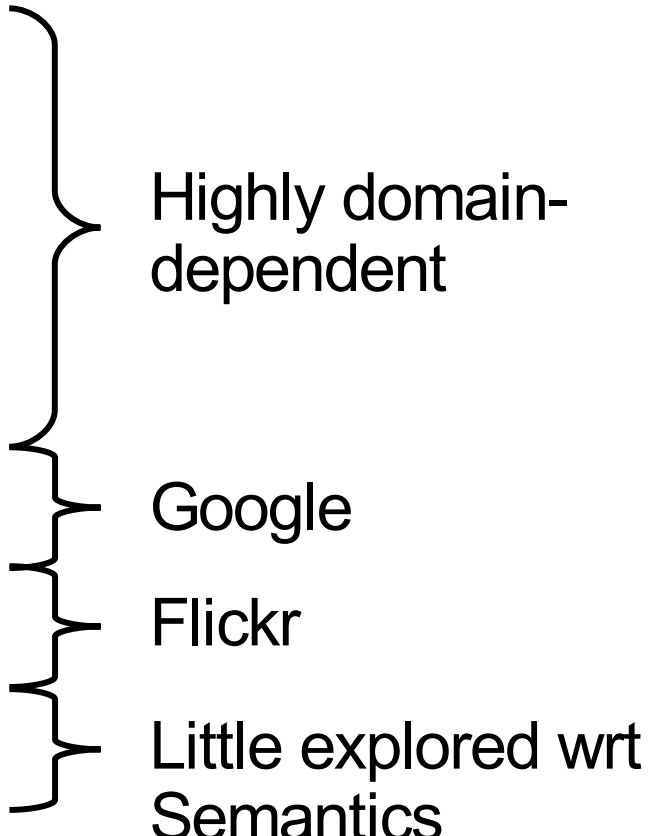
- Send family recent christmas photos...
- Send friends pictures that include them...
- Show a friend where we live...
- Exchange opinions about what are the best shots
- Record „photo copies“ of signed contracts
- Query for all architecture images built for X-Media proposal...
- Find images similar to another image ...
- Get the song to the lyrics I know ...

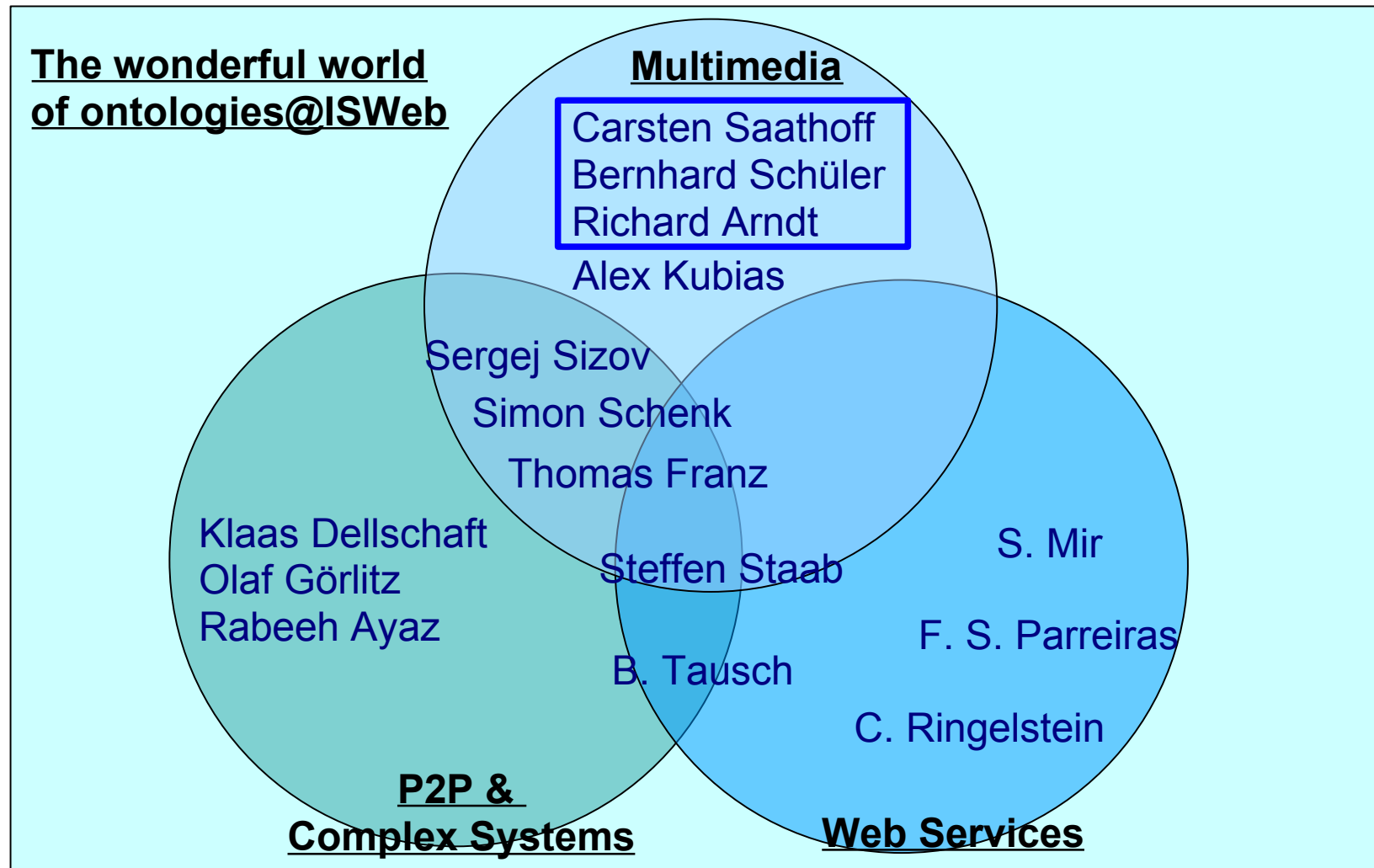
List to be continued...

- Store pictures in a folder
- Query for picture name and date



The Semantic Gap

- Image understanding
 - Scene classification
 - People recognition
 - Artifact recognition
 - Context understanding
 - Shared Annotation
 - User Feedback
- 
- Highly domain-dependent
- Google
- Flickr
- Little explored wrt Semantics



Carsten Saathoff

Bernhard Schöler

Richard Arndt

- ♦ works in aceMedia
- ♦ Focus on High-Level Image Understanding
 - prototypical knowledge for automatic image annotation
 - visual ontologies
 - constraint reasoning
 - learning visual ontologies

Carsten Saathoff
Bernhard Schöler
Richard Arndt

- M-OntoMat Annotizer
 - creating visual ontologies
 - next steps
 - manual (and automatic) annotation of images
- SEA: Semantic Exchange Architecture
 - tagging for the desktop
 - sharing of (meta-)data

Carsten Saathoff
Bernhard Schöler
Richard Arndt

- ♦ Multimedia information retrieval/ object detection
 - Object detection using random field based models
- ♦ Uncertainty
 - Adequate representation of information obtained by multimedia information retrieval
 - Integration with background knowledge
 - Feasible reasoning with uncertainty to answer simple queries

Development of a multimedia ontology

Carsten Saathoff
Bernhard Schöler
Richard Arndt

- ♦ Provide machine accessible semantics of MPEG-7 in an ontology
 - Enable interoperability of MPEG-7 metadata
- ♦ Cover only frequently used core of MPEG-7
 - Design of an extensible ontology to include further description tools on demand
- ♦ Domain independent ontology that may be reused for widespread multimedia applications
- ♦ Representation of low level features through instances of logical concepts as the first step to reduce the semantic gap
 - Uniform treatment of high level object descriptions and low level data processing results

Development of a multimedia ontology

Carsten Saathoff
Bernhard Schöler
Richard Arndt

- ◆ Focus on clean design of the ontology to reach the two main design-goals:
 - Extensibility
 - Reusability
- ◆ Alignment with the DOLCE foundational ontology to enforce clean classification of multimedia concepts
- ◆ Research is done in the context of two EU projects:
 - KSpace
 - X-Media

1. Narrowing the Semantic Gap requires an Integration of Multiple Techniques
2. Some of the techniques need not be very sophisticated
 - e.g. tagging
3. Some sophisticated techniques may not range very far
 - person recognition trained for my family doesn't recognize Carsten
4. Different communities need to speak to each other
5. Large chances for the Semantic Web crowd!