Semantic Web and Multimedia

- Motivation & Agenda –

Steffen Staab
http://isweb.uni-koblenz.de
Semantic Web for Multimedia

Semantic Aspects

Semantics in Multimedia

Formal semiotics – logics and probabilities as core tools

What is the meaning of some multimedia data?

Web Aspects

Multimedia on the Semantic Web

Social dynamics – the Web as an IT enabler

How are things interwoven, i.e. networked?
Semantics in Multimedia: What for?

Tasks & Purpose
Find me pictures about a boy on the beach
Find me cute pictures about Nico to show to my Mum
Find me pictures from Greece
Find me pictures from our common holiday

- with a resolution of ….
- with no other person in the foreground…
What does this mean?
Multimedia Semantics

Content semantics (general knowledge):
  boy; beach; jet ski; sea; sky
Content semantics („private knowledge“):
  Nico digging
Retrieval semantics:
  cute picture to show
Situational semantics:
  Chalkidiki, Greece, 2006
Social semantics:
  SSMS 2006
Multimedia Semantics

Technical perspective

Multimedia content semantics

- Multimedia situational semantics
  - Multimedia usage semantics
  - Multimedia social semantics
    - common vacation
    - cute
    - Turkey
    - boy

Human perspective

And semiotics will tell you that this list is incomplete…
Multimedia Semantics

- Multimedia content semantics
- Multimedia situational semantics
- Multimedia retrieval semantics
- Multimedia social semantics

Keywords:
- common vacation
- cute
- Turkey
- boy

Processes:
- Extract from (image) data
- Feedback & AutoClassify
- Capture (during creation)
- Manual Class. & Mgmt
Find me a cute picture of Nico digging during our common vacation.
"One Ring to rule them all,
One Ring to find them,
One Ring to bring them all and
in the darkness bind them."

_Inscribed on the One Ring_
Core Questions for Multimedia:

*How to represent the ontology?*

*How to query the ontology?*

*Which ontology to construct how?*

*How to populate the ontology?*
Multimedia on the Semantic Web

Task: Depict ISWeb People

Precision
20/20

Recall
20/23 (FTE)
20/43 (all)
Some are missing...you may find on Flickr
Some are missing..

Students
- You may find on our group web page
Some are missing..

Students you may find by Wiki + social search:

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ISWeb Wiki
Steffen Staab
WerZuWem
Conference Planning » Oberseminar ISWeb » Oberseminar 0120070823 »
StartSeite » WerZuWem

HiWis

<table>
<thead>
<tr>
<th>Name</th>
<th>E-Mail</th>
<th>Projekt</th>
<th>Betreuer</th>
<th>Foto</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andreas Stahlhofen</td>
<td><a href="mailto:astahlhofen@uni-koblenz.de">astahlhofen@uni-koblenz.de</a></td>
<td>WeKnowlt</td>
<td>Felix</td>
<td></td>
</tr>
</tbody>
</table>
Some are missing

New members I may find in my mail box:
Some are missing...

New members you may find on LinkedIn:

Maciej Janik
PhD candidate at University of Georgia
Athens, Georgia Area

Contact Directly
Get introduced through a connection

Public profile powered by: LinkedIn
The Semantic Web: Tying it together

ISWeb

SCIENTIFIC PHD ...

Renata Dividino CV ...

Maciej Janik - Link ...

Friedrich Pfitzmann ...

Mail
File
Social Site
Web Page
http://www.vimeo.com/1513562?pg=embed&sec=1513562
Core Questions for Multimedia in Semantic Web

How to represent Multimedia Data?
- Language
- Schema/Ontology/Standard

How to represent and access Multimedia Containers?
- E-mail
- Wiki
- Web pages (i.e. annotation)
- Documents
- Relational databases

How to link between different (Multimedia) Containers?
- E.g. staab@uni-koblenz.de and refer to same person

How to query/search (Semantic) Data?
Agenda Items

Ontology Representation Languages

Multimedia Ontologies

Ontology-based
- annotation
- content recognition
- content creation
- retrieval and feedback
- metadata management
- ...

Not considered in this tutorial!