Semantic Multimedia Management
- 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

**Web Aspects**

- **Multimedia on the Semantic Web**
  - Social dynamics – the Web as an IT enabler

**Semiotics**

- What is the meaning of some multimedia data?
- 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 social semantics

Multimedia usage semantics

Multimedia situational semantics

Multimedia content semantics

Human perspective

common vacation

cute

Greece

boy

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

Multimedia content semantics

Multimedia situational semantics

Multimedia usage semantics

Multimedia social semantics

common vacation

cute

Greece

boy

Manual Class. & Mgmt

Feedback & AutoClassify

Capture (during creation)

Extract from (image) data

Extract from (image) data

Manual Class. & Mgmt

Feedback & AutoClassify

Capture (during creation)

Manual Class. & Mgmt

Feedback & AutoClassify

Capture (during creation)
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?
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:
Some are missing

New members I may find in my mail box:

M. Sc. Renata Dividino

Privacy protected

Privacy protected
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

Current
Research Assistant / PhD candidate at LSDIS
Lab, University of Georgia

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

ISWeb

- SCIENTIFIC PHD...
- RenataDividinoCV...
- Maciej Janik - Link...
- Friedrich Pfitzmann...

Mail
File
Social Site
Web Page
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
Multimedia Processes
Multimedia Analysis & Understanding
Multimedia Ontology
Multimedia Annotation
Semantic Desktop