Presenting Knowledge on the Semantic Web

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Semantic Media Interfaces

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http://media.cwi.nl
Long-term goal

- Develop knowledge-intensive models and document processing technologies that are able to:
  - generate coherent multimedia presentations tailored to an individual user taking into account their preferences, abilities, device capabilities and environment.

From syntax to semantics

Syntax
- Amsterdam
- Cuypers
- Hypermedia
- Model

Semantics
- Topia
- DISC
- Vox Populi

Time
Semantic graph to presentation

- DISC
- Rijksmuseum repository of media items
- Semantic graph is not enough
  Rembrandt married-to Saskia
  also need discourse structures for deriving grouping, ordering and priorities
- Biography template created
  painter is-a profession

- Stefano Bocconi, Joost Geurts
  ISWC 2003
From syntax to semantics

Syntax
Amsterdam
Hypermedia
Cuypers
Model

Semantics

Time

Vox Populi

Topia,
DISC

Argument generation in video
Argument generation in video

- Vox Populi
- Database of video clips
- Annotated with topic and agree/disagree
- Argumentation model (Toulmin)
- User specifies query and video sequence generated

- Stefano Bocconi, ICME 2005

From syntax to semantics

Syntax
- Amsterdam
- Hypermedia
- Model

Semantics
- Cuypers
- Topia
- DISC

Time

/facet
MultimediaN Eculture

• Collection of vocabularies in RDF:
  - AAT, ULAN, TGN
• Artchive images
• Interface for searching and browsing

http://eculture.multimedian.nl

Partners:
- Guus Schreiber, VU; Bob Wielinga & Jan Wielemaker, UvA
- Jos Baeten, DEN (Digitale Erfgoed Nederland)

Eculture advanced search interface

MultimediaN E-Culture project demonstrator

Disclaimer: this is work in progress.

Keyword search

Search for type [ac]:

Suggested refinement on the query

Search for keyword:

Match:
- created by an artist with matching name in the keyword ‘artist’
- with matching title in the keyword ‘title’
- with matching year in the keyword ‘year’
- created by an artist with matching name in the keyword ‘artist’
- created by an artist with matching name in the keyword ‘artist’
- created by an artist with matching name in the keyword ‘artist’

Search

Description
This is a demonstration of how Semantic Web technology can help to interactively search, navigate, and annotate associated multimedia collections.

Implementation details
The prototype is built using the SPARQL Query Language (http://www.w3.org/TR/rdf-arq/).

For the purposes of the demonstration, we have uploaded RDF triples of paintings (after conversion to RDF using the VRA vocabulary). In order to be able to automate searching and browsing, we uploaded RDF versions of the Getty Thesaurus (AAT, ULAN) and TGN (http://www.getty.edu/research/vocabulary/vra/index.html).

Finally, if this can be related to other activities or other closely related words, a future version will also upload an RDF version of WordNet.
Eculture search result - monet

Eculture facet browsing - post-impressionist artist
Eculture single artist

Gustav Klimt

Klimt was born in Bregenz, near Vienna, Austria, the second of seven children. His father (Ernst Klimt) was an engraver and was married to Anna Klimt (née Birk). He was educated at the Vienna School of Arts and Crafts (“Kunsthochschule”) in the years 1879–1885, and received training as an architect and industrial designer. He began his professional career painting interior murals in large public buildings on the Ringstrasse. Klimt was also an honorary member of the Universities of Munich and University of Vienna. The “Klimt” 1997–1998. Oil on canvas (139 x 119 cm). Private collection. His work is distinguished by its elegant use of gold backgrounds and mosaic patterns. This can be seen in “Judith I” (1901), and in “The Kiss” (1907). Art historians note an elitist range of influences contributing to Klimt’s distinct style, including Ancient Egypt, Asian art, the Orient, French art nouveau, and Byzantine. Klimt was one of the founding members of the Vienna Secession (Viener Sezession) and of the periodical “Ver Sacrum”. He left the movement in 1908. Klimt took annual summer holidays on the shores of Attersee lake and painted some of his landscapes he saw then. He died in Vienna on February 6, 1918 of a stroke and was interred at the Hietzing Cemetery, Vienna. Numerous paintings were left unfinished.

Eculture single styled artist

Gustav Klimt

Klimt, Gustav

Gustav Klimt was born in Bregenz, near Vienna, Austria, the second of seven children. His father (Ernst Klimt) was an engraver and was married to Anna Klimt (née Birk). He was educated at the Vienna School of Arts and Crafts (“Kunsthochschule”) in the years 1879–1885, and received training as an architect and industrial designer. He began his professional career painting interior murals in large public buildings on the Ringstrasse. Klimt was also an honorary member of the Universities of Munich and University of Vienna. The “Klimt” 1997–1998. Oil on canvas (139 x 119 cm). Private collection. His work is distinguished by its elegant use of gold backgrounds and mosaic patterns. This can be seen in “Judith I” (1901), and in “The Kiss” (1907). Art historians note an elitist range of influences contributing to Klimt’s distinct style, including Ancient Egypt, Asian art, the Orient, French art nouveau, and Byzantine. Klimt was also inspired by engravings of Albrecht Dürer. His modernist impressionist paintings, and by the works of Klimt’s contemporaries such as Art Nouveau. Klimt was one of the founding members of the Vienna Secession (Viener Sezession) and of the periodical “Ver Sacrum”. He left the movement in 1908. Klimt took annual summer holidays on the shores of Attersee lake and painted some of his landscapes he saw then. He died in Vienna on February 6, 1918 of a stroke and was interred at the Hietzing Cemetery, Vienna. Numerous paintings were left unfinished.
Challenges

• Making (multimedia) discourse and design knowledge explicit

• Expressing re-usable semantics of media assets

• Designing architectures for multimedia presentation generation

W³C Multimedia Semantics XG

• Use Semantic Web technologies to integrate existing multimedia metadata standards
• Demonstrate the added value of formal semantics
• Provide best practices for annotating and using multimedia content on the Web

http://www.w3.org/2005/Incubator/mmsem/

Public mailing list:
http://lists.w3.org/Archives/Public/public-xg-mmsem/
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