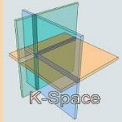


Creating Meaningful Presentations

Lynda Hardman
Jacco van Ossenbruggen

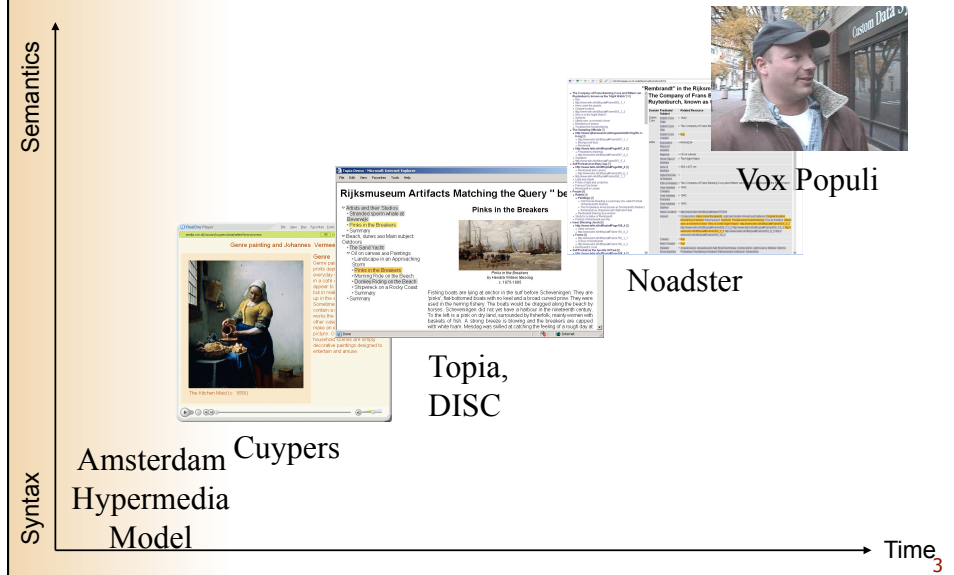
Semantic Media Interfaces
CWI, Amsterdam
<http://www.cwi.nl/~media>



Introduction

- Overview of our research activities:
 - Creating meaningful presentations from query results
 - Part of the K-Space, Passepartout and Multimedia-N
- Main theme of our work:
 - The role that **explicit discourse** information plays in the *personalized generation process*
 - The difference between:
 - a *list* of retrieval results ordered *most relevant first* and
 - a *presentation* that has *structure* interpretable by the end user, giving the collection *sense of belonging to same presentation*

From syntax to semantics



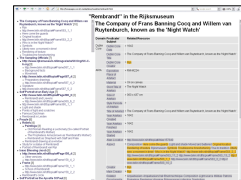
Existing approaches in presenting query results

- No explicit discourse (only domain semantics):
 - Noadster - clusters from domain semantics
 - Topia - preselecting concepts in domain semantics
 - Museo Suomi, /facet (facet browsers) – selection based on domain semantics
- Deriving some aspects of discourse:
 - Giving meaning to clustering process
 - Assigning different weights to clusters => ordering
 - Influence the way people perceive information

Semantic Web browsing

- Noadster
- Generalised semantic web browsing
- Integrating global and local browsing

- Lloyd Rutledge, WWW 2005



http://homepages.cwi.nl/~media/semweb/noadster/rembrandt.html

"Rembrandt" in the Rijksmuseum

The Company of Frans Banning Cocq and Willem van Ruytenburch, known as the 'Night Watch'

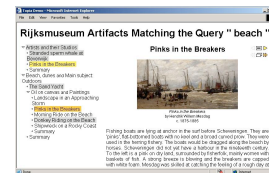
Domain	Predicate/Subject	Related Resource
Dublin Core	Date	> 1642
Dublin Core	Title	> The Company of Frans Banning Cocq and Willem van Ruytenburch, known as the 'Night Watch'
Dublin Core	Creator	> Rijn
ARIA	Exposition	> RM-M224
ARIA	Place of Artefact	> Oil on canvas
ARIA	Short Title of Artefact	> The Night Watch
ARIA	Size of Artefact	> 363 x 437 cm
ARIA	Style Period of Artefact	>
ARIA	Title of Artefact	> The Company of Frans Banning Cocq and Willem van Ruytenburch, known as the 'Night Watch'
ARIA	Year Artefact Created	> 1642
ARIA	Year Artefact Finished	> 1642
ARIA	Year Artefact Started	> 1642
ARIA	Altis Location	> http://www.telin.nl/rdtopia/Atlas157849
ARIA	Aspect	> Composition Here come the guards Light and shade Moved and battered Original location Rendering of texture Rijksmuseum Symbols Troublesome foreshortening True to tradition Liberty new: a moment in time! Who is in the Night Watch? http://www.telin.nl/rdtopia/Frame583_2_2 http://www.telin.nl/rdtopia/Frame583_11_2 http://www.telin.nl/rdtopia/Frame583_13_2 http://www.telin.nl/rdtopia/Frame583_10_2 http://www.telin.nl/rdtopia/Frame583_10_2
ARIA	Creator	< Rijn
ARIA	Main Creator	< Rijn
ARIA	Related	< Arquebusiers Arquebusiers hall Brush technique Composition Light source Militias Patrons
ARIA	Encyclopedia	< Portraiture Rendering of texture Rijksmuseum collection Symbolism

- The Company of Frans Banning Cocq and Willem van Ruytenburch, known as the 'Night Watch' [10]
 - Rijn
 - [http://www.telin.nl/rdtopia/Frame583_1_1](#)
 - Here come the guards
 - Original location
 - [http://www.telin.nl/rdtopia/Frame583_2_2](#)
 - Who is in the Night Watch?
 - Symbols
 - Utterly new: a moment in time!
 - Rendering of texture
 - Troublesome foreshortening
- The Sampling Officials [7]
 - [http://www.rijksmuseum.nl/images/aria/SKU/Org/SK-C-6.org](#) [3]
 - [http://www.telin.nl/rdtopia/Frame587_1_1](#)
 - Background facts
 - Movement
 - [http://www.telin.nl/rdtopia/Frame587_4_2](#) [2]
 - Preparatory drawings
 - [http://www.telin.nl/rdtopia/Frame587_4_2](#)
 - Signature
 - [http://www.telin.nl/rdtopia/Frame587_5_2](#)
- Self Portrait at an Early Age [7]
 - [http://www.telin.nl/rdtopia/Frame380_6_2](#) [2]
 - Rembrandt and Lievens
 - [http://www.telin.nl/rdtopia/Frame380_6_2](#)
 - [http://www.telin.nl/rdtopia/Frame380_1_1](#)
 - Light and shade
 - Points of light and scratches
 - Famous Dutchman
 - Rembrandt in Leiden
- People [6]
 - [Reliefs](#) [4]
 - [Paintings](#) [3]
 - Old Woman Reading a Lctionary (So-called Portrait of Rembrandt's Mother)
 - The Prophetess Anna (known as 'Rembrandt's Mother')
 - Rembrandt as Shepherd with Staff and Flute
 - Rembrandt drawing at a window
 - Study for a statue of Rembrandt
 - Portrait of Rembrandt van Rijn
- Isaac Blessing Jacob [6]
 - [http://www.telin.nl/rdtopia/Frame158_4_2](#) [2]
 - Other versions
 - [http://www.telin.nl/rdtopia/Frame158_4_2](#)
- Frame [3]
 - [http://www.telin.nl/rdtopia/Frame158_1_1](#)
 - School of Rembrandt
 - [http://www.telin.nl/rdtopia/Frame158_2_2](#)
 - Rembrandt's circle
- Self Portrait as the Apostle St Paul [6]
 - [http://www.telin.nl/rdtopia/Frame158_1_1](#) [7]

Inferring document structure

- Topia
- Rijksmuseum ARIA database -> RDF
- Clustering on results of query
- Presentation showing "table of contents" and current focus

- Lloyd Rutledge
ACM Hypertext 2003



Inferring document structure

Rijksmuseum Artifacts Matching the Query " beach "

- Artists and their Studios
 - Stranded sperm whale at Beverwijk
 - Pinks in the Breakers**
 - Summary
- Beach, dunes and Main subject: Outdoors
 - The Sand Yacht
 - Oil on canvas and Paintings
 - Landscape in an Approaching Storm
 - Pinks in the Breakers**
 - Morning Ride on the Beach
 - Donkey Riding on the Beach
 - Shipwreck on a Rocky Coast
 - Summary
 - Summary

Pinks in the Breakers

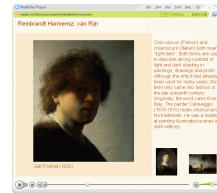
Pinks in the Breakers
by Hendrik Willem Mesdag
c. 1875-1885

Fishing boats are lying at anchor in the surf before Scheveningen. They are 'pinks', flat-bottomed boats with no keel and a broad curved prow. They were used in the herring fishery. The boats would be dragged along the beach by horses. Scheveningen did not yet have a harbour in the nineteenth century. To the left is a pink on dry land, surrounded by fisherfolk, mainly women with baskets of fish. A strong breeze is blowing and the breakers are capped with white foam. Mesdag was skilled at catching the feeling of a rough day at

Explicit Discourse

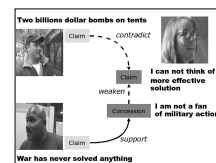
– Fixed discourse:

- DISC – uses annotated multimedia repository + domain ontology and discourse knowledge
- discourse knowledge = set of rules (genre, narrative units...)



– Dynamic discourse:

- VoxPopuli:
argument generation in video



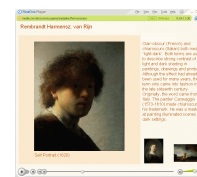
– Role of structured progression

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Fixed Discourse

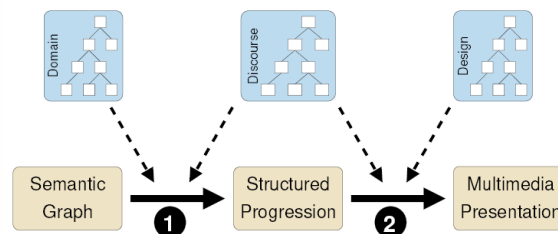
- DISC
- Rijksmuseum repository of media items
- Semantic graph is not enough
Rembrandt married-to Saskia
also need discourse structures
for deriving grouping, ordering and priorities
- Biography template created
painter is-a profession

- Stefano Bocconi, Joost Geurts
ISWC 2003



Role of structured progression

- Mono-media cases (text or video sequences):
 - ordering for the fragments and present them
- Presentations that use combinations of media,
 - Semantics of domain and discourse need translation to *hierarchical structures* that can be expressed through *layout*, *navigational links* or *temporal info*.
- Intermediate format is required:



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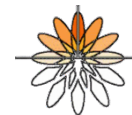
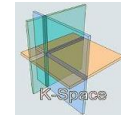
Conclusions

- From projects described we have learned:
 - distinguish stages in process
 - separate discourse knowledge
 - Fixed and Dynamic discourse
 - mappings between domain & discourse knowledge
- Scientific challenges remain:
 - Making (MM) discourse and design knowledge explicit
 - Expressing re-usable semantics of media assets
 - Architectures for multimedia presentation generation

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Acknowledgments

- This research was funded by:
 - the European Commission under contract FP6-027026, *Knowledge Space of semantic inference for automatic annotation and retrieval of multimedia content - K-Space*
 - the European *ITEA Passepartout* project,
 - Dutch *BSIK MultimediaN e-Culture* project



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Literature tips

- *Guus Schreiber, Alia Amin, Lora Aroyo, Mark van Assem, Victor de Boer, Lynda Hardman, Michiel Hildebrand, Borys Omelayenko, Jacco van Ossenbruggen, Anna Tordai, Jan Wielemaker and Bob Wielinga*
Semantic Annotation And Search Of Cultural-Heritage Collections: The MultimediaN E-Culture Demonstrator
<http://dx.doi.org/10.1016/j.websem.2008.08.001>
- *Michiel Hildebrand, Jacco van Ossenbruggen and Lynda Hardman*
/facet: A Browser for Heterogeneous Semantic Web Repositories
ISWC 2006 http://dx.doi.org/10.1007/11926078_20
- *Stefano Bocconi*
Vox Populi: generating video documentaries from semantically annotated media repositories
PhD thesis, Technical University of Eindhoven, 2006
<http://www.cwi.nl/~media/Theses/Bocconi/VoxPopuli.pdf>
- *Stefano Bocconi*
Automatic generation of matter-of-opinion video documentaries
Journal of Web Semantics, April 2008, 6(2), pp. 139-150
<http://dx.doi.org/10.1016/j.websem.2008.01.004>

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