Creating Meaningful Presentations
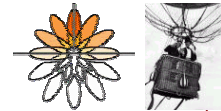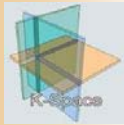
Lynda Hardman
Jacco van Ossenbruggen
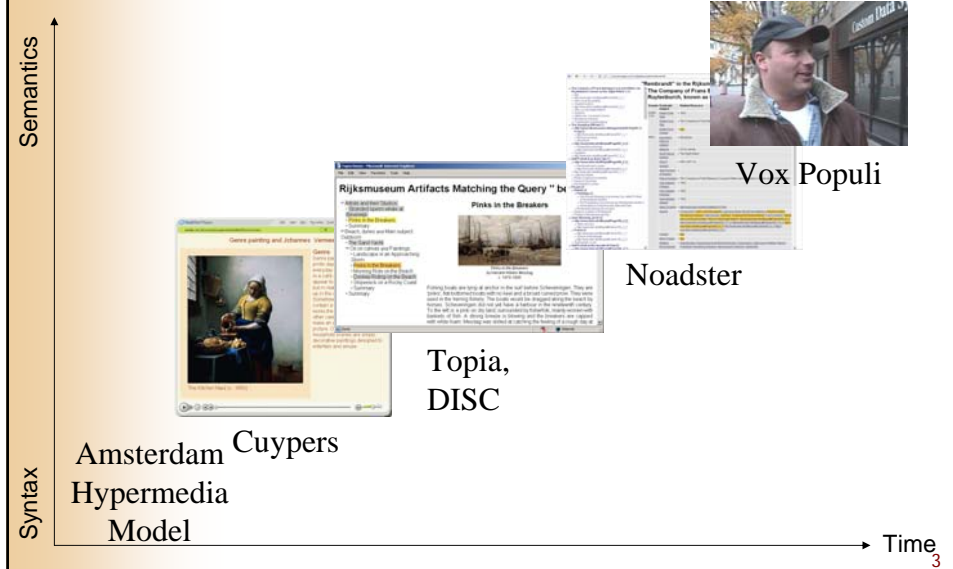
Semantic Media Interfaces
CWI, Amsterdam
http://www.cwi.nl/~media

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*

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From syntax to semantics

Semantics

Syntax

Vox Populi

Noadster

Topia,
DISC

Amsterdam Cuypers
Hypermedia
Model

Time

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

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

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

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RealOne Player — File View Play Tools Help

media.cwi.nl/cocoon/cuypers/aria/selectform-process   wav 1506Kbps   0:24 / 1:30

Rembrandt Harmensz. van Rijn

Clair-obscur (French) and chiaroscuro (Italian) both mean 'light-dark'. Both terms are used to describe strong contrast of light and dark shading in paintings, drawings and prints. Although the effect had already been used for many years, the term only came into fashion in the late sixteenth century. Originally, the word came from Italy. The painter Caravaggio (1573-1610) made chiaroscuro his trademark. He was a master at painting illuminated scenes in dark settings.

Self Portrait (1628)

Dynamic Discourse

- Vox Populi: Argument generation in video

Question

Why did they do what they did?
What do you think of the casualties among civilians?
What do you think of the Afghanistan war?
What are the consequences of the war?
What are the roots of the problem?
What do you think about the Anthrax?

Interviewee

Cameroun Parking Guard at Stamford
Lawyer in Harward

Opinion — Position

War in Afghanistan - Pro

First Character

Age	Education	Employment	GeoLocation	Race	Religion	Sex
Middleage	HighEducated	HighIncomeJob	NotUSA	AmericanIndian	Atheist	Female
Old	LowEducated	LowIncomeJob	USA	Asian	Christian	Male
Teenager	MediumEducated	MiddleIncomeJob		Black	Muslim	
Young		Retired		Hispanic		
		Student		White		

Second Character

Age	Education	Employment	GeoLocation	Race	Religion	Sex
Middleage	HighEducated	HighIncomeJob	NotUSA	AmericanIndian	Atheist	Female
Old	LowEducated	LowIncomeJob	USA	Asian	Christian	Male
Teenager	MediumEducated	MiddleIncomeJob		Black	Muslim	
Young		Retired		Hispanic		
		Student		White		

Strategy
- None
- Create Clash
- Create Support
- Vox Populi

Bandwidth
- Low Bandwidth
- Medium Bandwidth
- High Bandwidth

Intercut
- True
- False

Caption
- On (can cause problems)
- Off

Done | Reset

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:
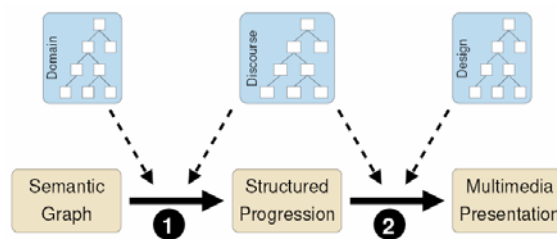
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Conclusions

- 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

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