

Using Topic Maps for Image Collections

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HTW Chur

TMRA'05 Leipzig

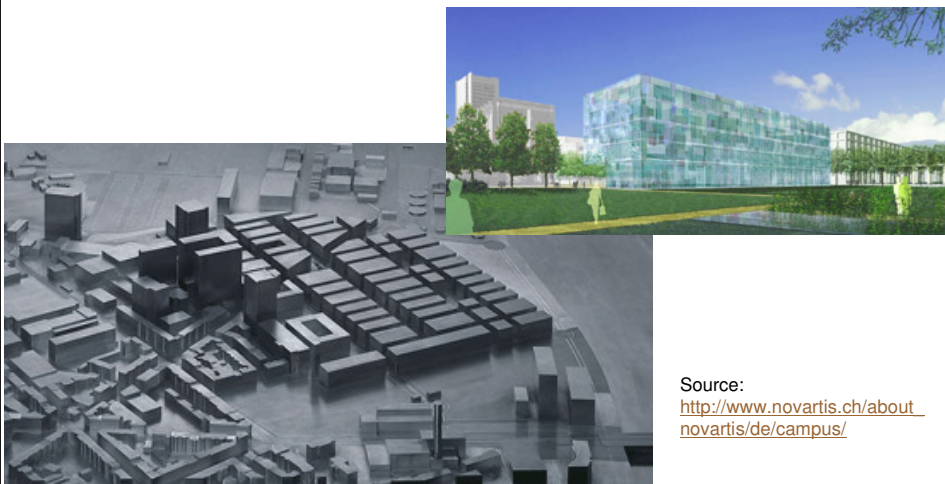
Contents

- 1. Outline of the Project *Living Memory***
- 2. Database Construction & Topic Mapping**
- 3. Access Options**

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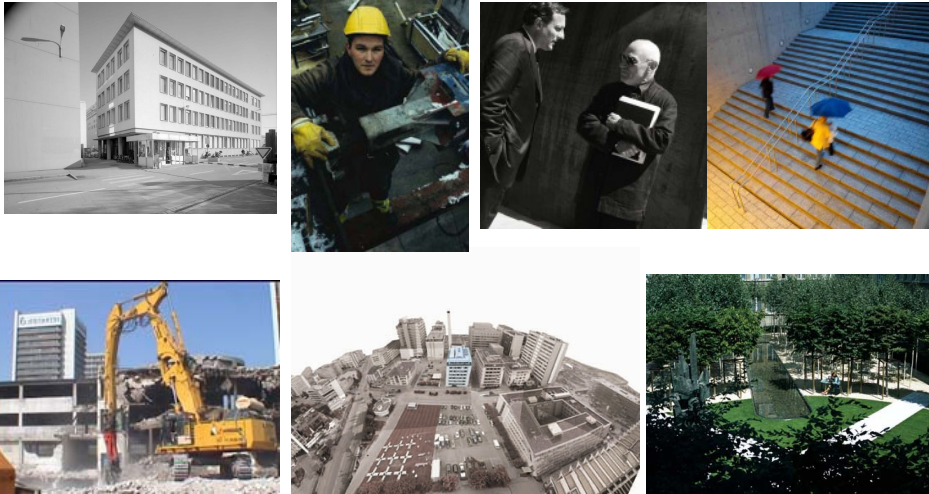
1. Outline of the Project *Living Memory*
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The emerging Novartis Campus



Source:
http://www.novartis.ch/about_novartis/de/campus/

The image collection



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The project *Living Memory*

Work packages:

1. Creation of visual resources
2. Database construction
3. Cataloguing & indexing of resources
4. Access options
5. Interface design
6. Usability testing

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First milestone reached

A semantic structure for image cataloguing & retrieval is established:

Metadata Scheme implemented in database	→ Cataloguing & retrieval
Thesaurus	→ Indexing
Topic Map	→ Navigation

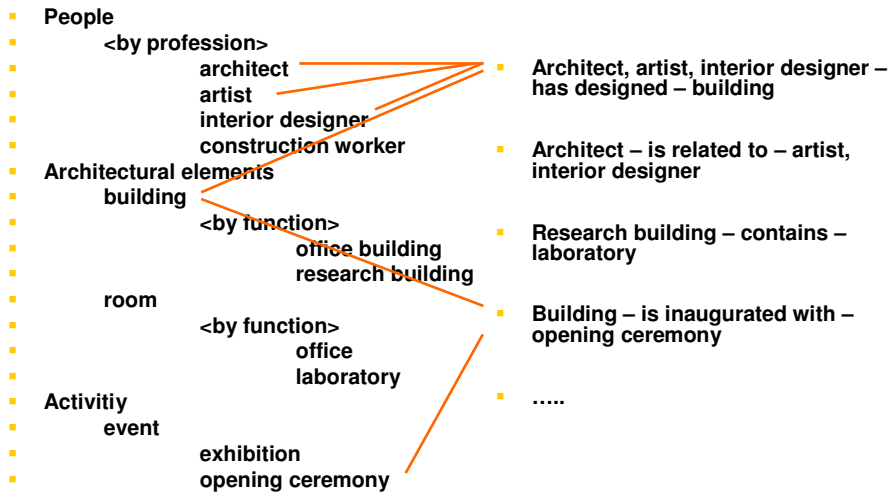
Thesaurus

- Based on the Art & Architecture Thesaurus (AAT)
- Main branches:
 - People → **Who** is on the image?
 - Objects → **Who**?
 - Activities → **What** are they doing?
 - Attributes → **How** are they?
 - Setting → **When** and where?

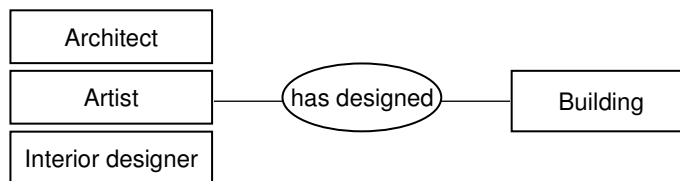
From thesaurus...

- People
 - <by profession>
 - architect
 - artist
 - interior designer
 - construction worker
- Architectural elements
 - building
 - <by function>
 - office building
 - research building
 - room
 - <by function>
 - office
 - laboratory
- Activity
 - Event
 - Exhibition
 - Opening ceremony

... to topic map

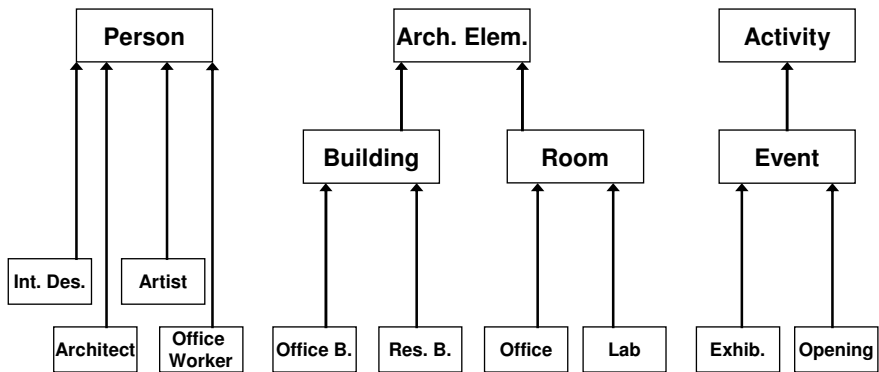


Populating the topic map

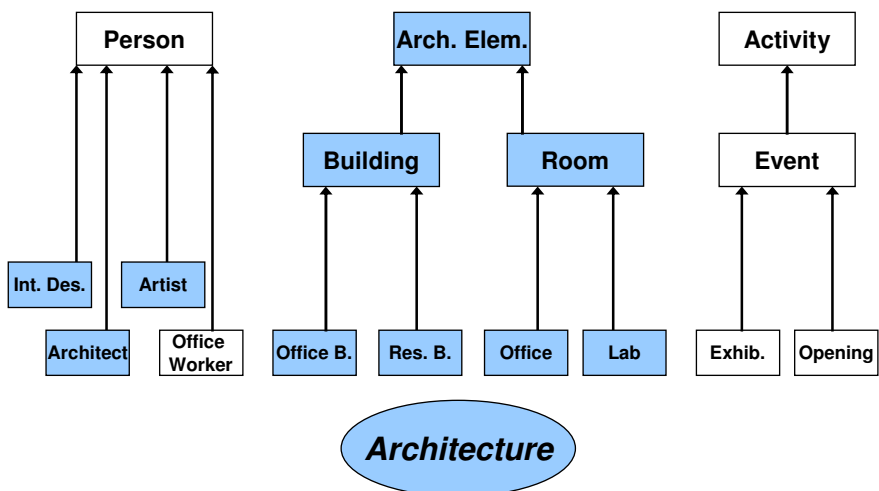


Instances	Assoc. roles	Instances
Diener Roger	Architect	Forum 3
Wiederin Gerold	Architect	Forum 3
Peach Seville	Int. Designer	Forum 3
Federle Helmut	Artist	Forum 3
Gehry Frank	Architect	Office Building 242
Krischanitz Adolf	Architect	Research Building 152
Märkli Peter	Architect	Visitors Center 157

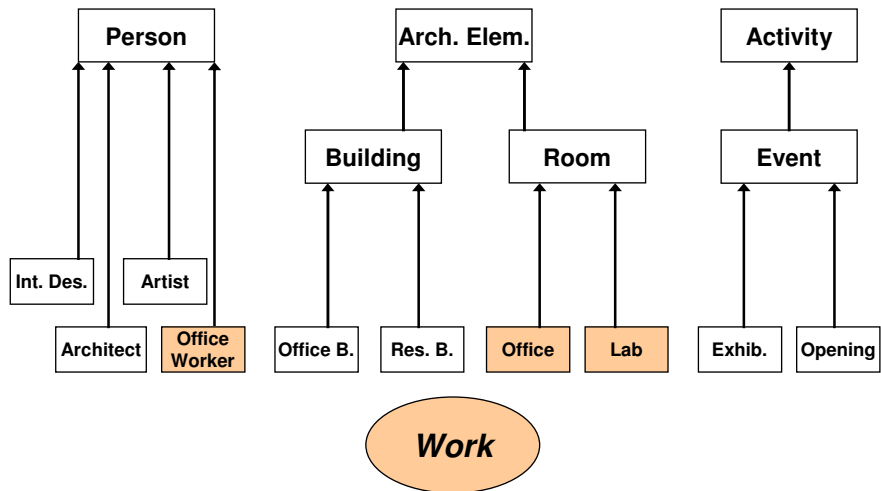
Scoping the topic map



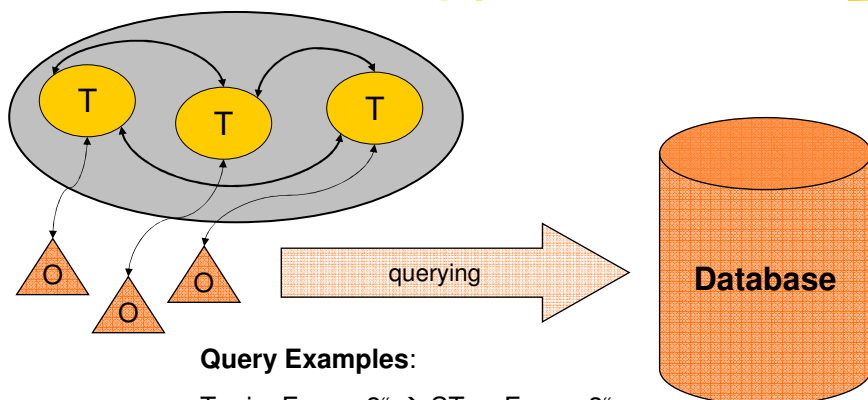
Scoping the topic map



Scoping the topic map



Occurrences as database queries

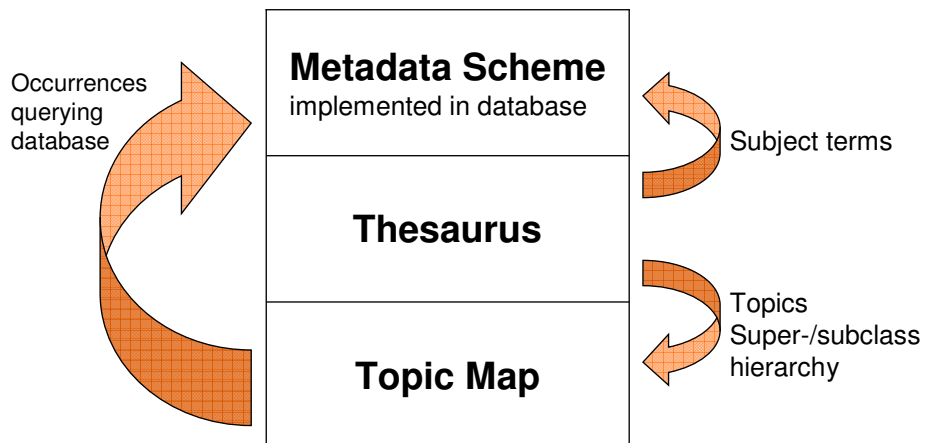


Query Examples:

Topic „Forum 3“ → ST = „Forum 3“

Topic „idyll“ → ST = X **AND** CF A between {50-80}
AND CF B between {200-255}

Semantic structure



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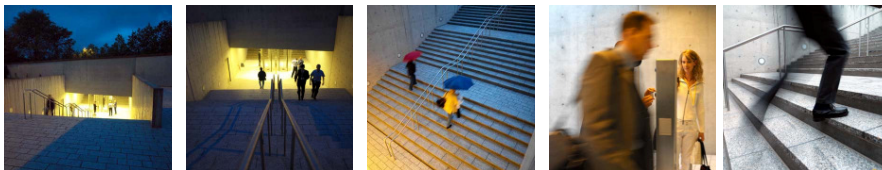
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Combining different access options

Search (traditional):

- Text-based search:
 - Formal metadata
 - Index terms
- Visual search:
 - Colour features
 - Intellectually assigned visual criteria

Refinement of search results



→ Refine search:

- ST = ...
- CF luminance between {80-150}

Continuing the search



Subject terms:

- Man, excavation worker, sitting, portrait, lying, tired, rest, food, bag

→ Continue search with ST „rest“:



Semantic search and browsing

Search (semantic):

- Text-based search for index terms
 - more precision
 - more recall
 - inclusion of superclasses
 - inclusion of associated terms

Browse:

- Topic Map

Questions to be solved

- Connection of topic map and database
- Use of scope
- Maintenance of the topic map