

Vom Geschäftsmodell bis zum Semantischen Retrieval – Erfahrungen aus dem DMGLib-Projekt

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Content

1 Digital Libraries and Business Models

2 Research Context → DMGLib

3 Technology → Topic Maps

4 Lessons Learned

Lesson 1: Workflow

Lesson 2: (Meta-)Modeling

Lesson 3: Notation

Lesson 4: Editing

Lesson 5: Visualization

Lesson 6: Integration

5 Sustainability → Roadmap for Business Model Development

7 Summary

1 Digital Libraries and Business Models

Digital Library: Definitions

- DL's are..."organized collections of digital information. They combine the structuring and gathering of information, which libraries and archives have always done, with the digital representation that computers have made possible"
Lesk
- DL's are ..."organizations that provide resources including the specialized staff to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities"
Waters
- DL's ..."should not just be seen as static information repositories but as growing, **interactively**, and **collaboratively** used nuclei of what will be at some stage, a good part of human knowledge that depends as much on information as on communication."
DELOS

1 Digital Libraries and Business Models

Business Model: Definitions

- “an architecture for the product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for the various business actors; and a description of the sources of revenues” [Timmers]
- “capital model”, “procurement model”, “goods and services model”, “distribution model”, “market model”, and “service supply model” [Wirtz]
- “architecture of a firm and its network of partners for creating, marketing and delivering value and relationship capital to one or several segments of customers in order to generate profitable and sustainable revenue streams”
[Pigneur as well as Dubosson-Torbay]

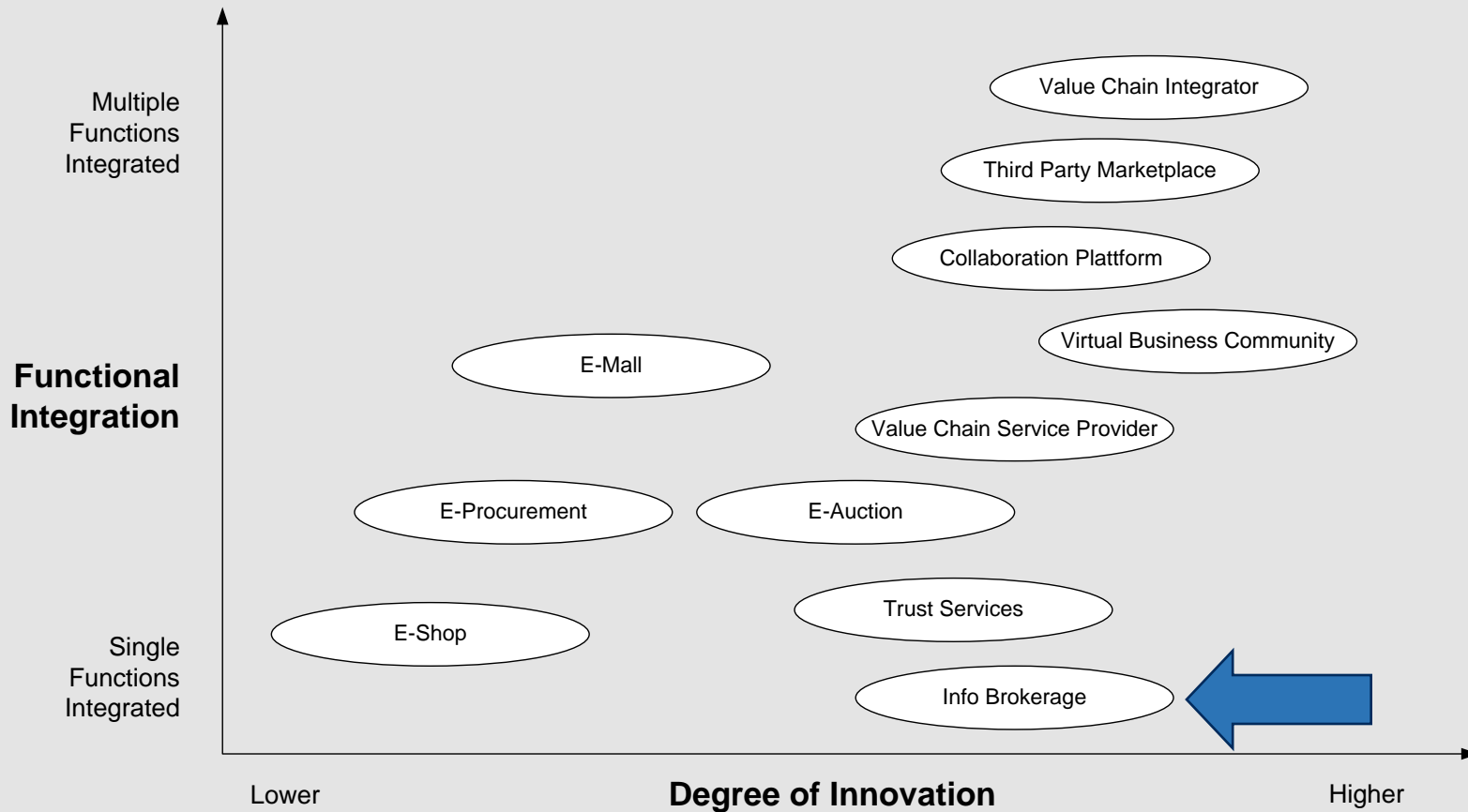
1 Digital Libraries and Business Models

Information Service: Definitions

1. The supplier's major objective is to **provide information services**. Business models that provide information as additional service to support the core supply only (for example, commerce transactions), are not classified as information services.
2. The customer's major objective is to **access information services**.
He does not visit the information service provider's site for any other reason.
He searches for information because he wishes solve an information problem.
3. The provision of information services often aims at **making profits**.

1 Digital Libraries and Business Models

Business Modell Classification Approach [Timmers]



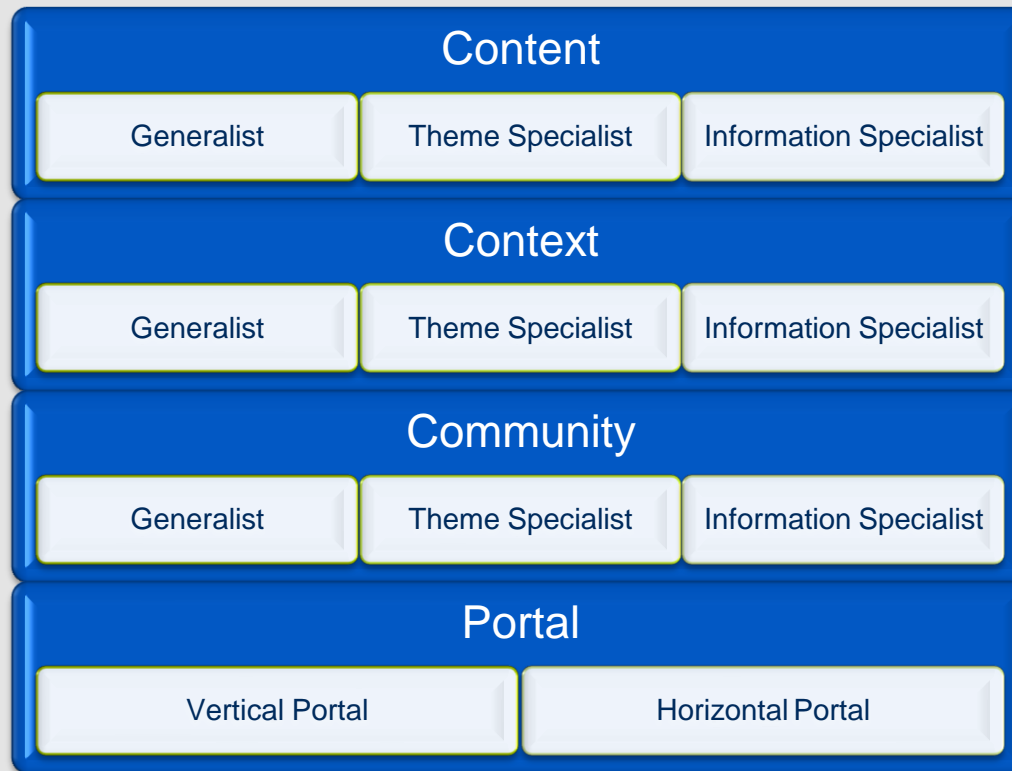
1 Digital Libraries and Business Models

Business Modell Classification [Wirtz et al.]

Business Model Types			
Content	Commerce	Context	Connection
collection, selection, systematisation, compilation, and provision of information	initiation, negotiation and/or processing of business transactions Definition	classification and systematisation of information available on the internet	providing tools and services for information exchange and communication
online provision of consumer centred, personalised content	supplement or substitution of traditional commerce transactions on the internet Objective	reduction of complexity, navigation	creation of interconnections to support communication
indirect revenues	transaction dependent, direct and indirect revenues Revenue type	indirect revenues	direct and indirect revenues
e-information e-entertainment e-infotainment e-education	attraction bargaining/ negotiation transaction Variants	search engines, web catalogues	intra-connection, inter-connection
ft.com time.com	dell.com amazon.com ebay.com Examples	google.com yahoo.com lycos.com	aol.com gmx.de pobox.com openbc.com

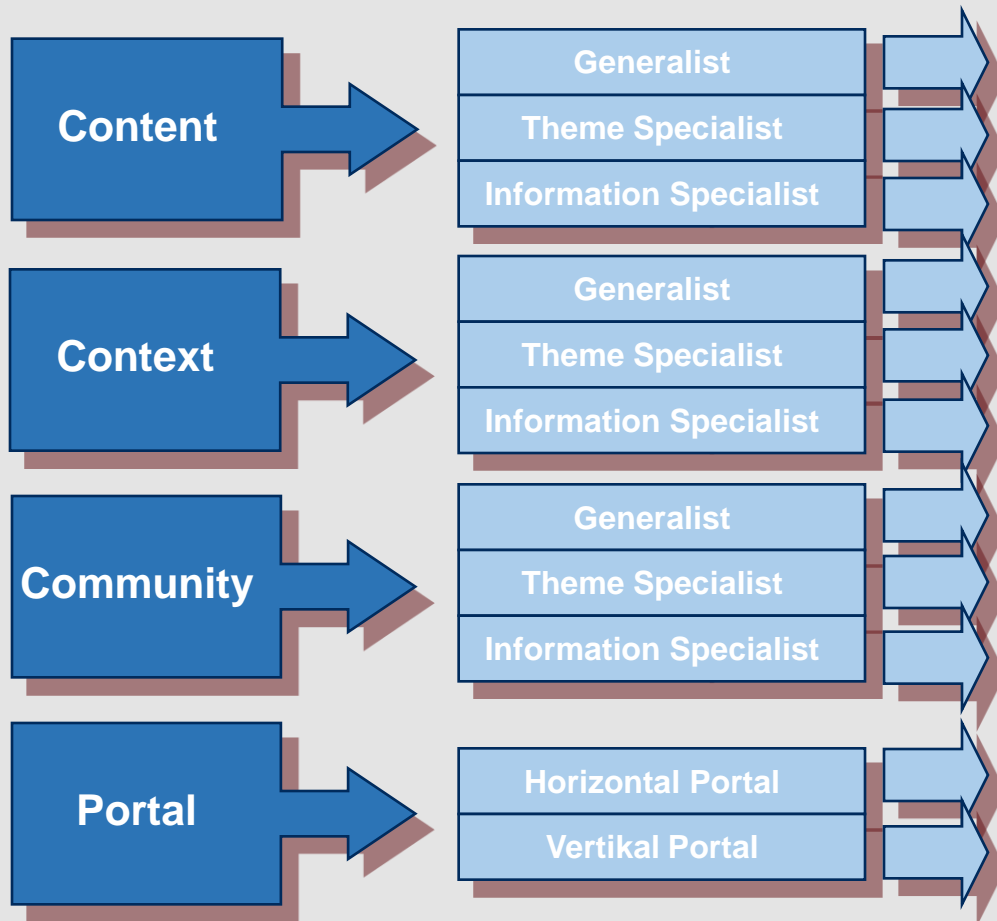
1 Digital Libraries and Business Models

Classification Approach for Digital Libraries



1 Digital Libraries and Business Models

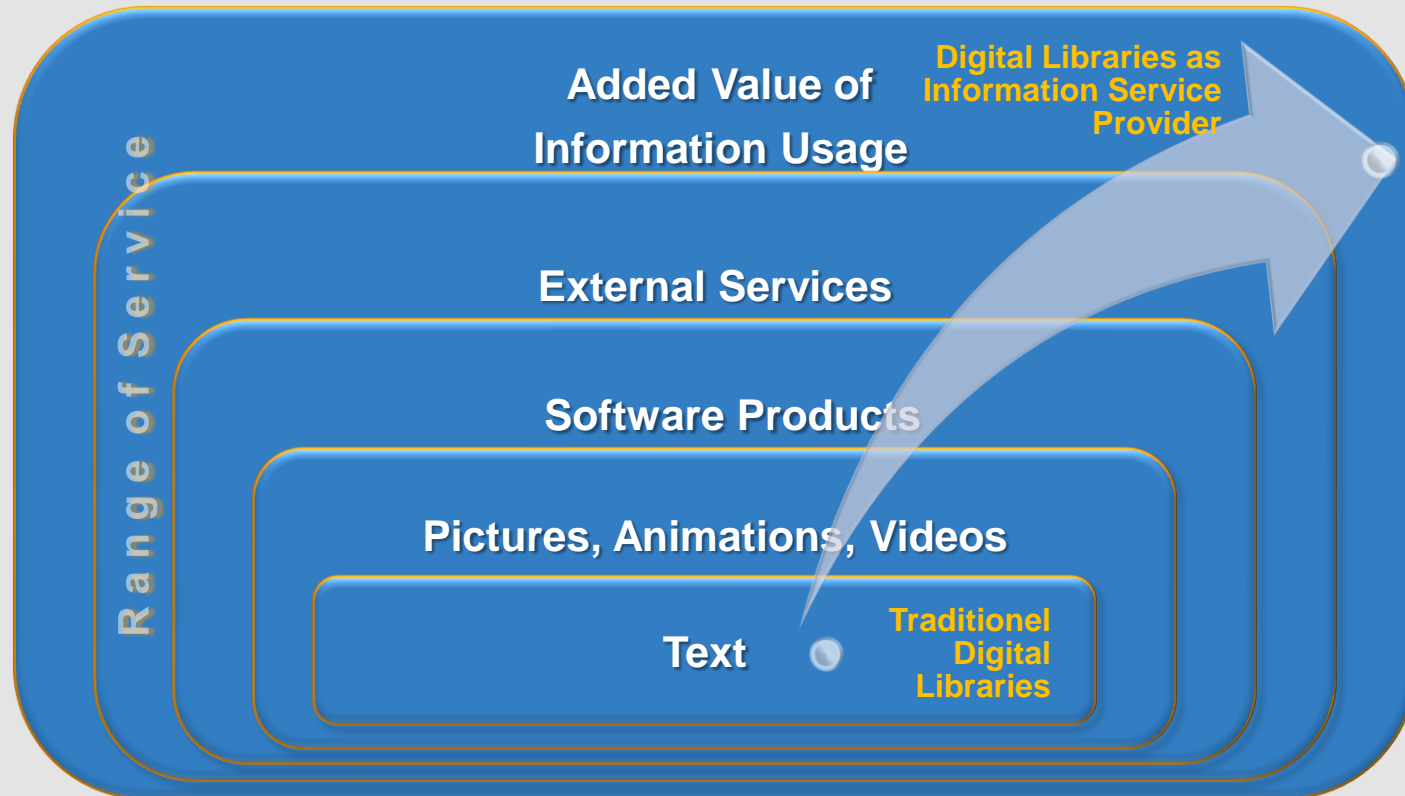
Classification Approach for Digital Libraries



<ul style="list-style-type: none"> America Memory, http://memory.loc.gov/ammem/
<ul style="list-style-type: none"> Ethnomathematics Digital Library http://www.ethnomath.org Historical Directories, http://www.historicaldirectories.org Alexandria Digital Library Project, http://www.alexandria.ucsb.edu Atmospheric Visualization Collection, http://www.nsdsl.arm.gov Carrie Electronic Library, http://www.ku.edu/carrie/texts/carrie_books Dafodil, http://www.dafodil.de Canada's Digital Collections, http://collections.ic.gc.ca ELPUB, http://elpub.scix.net/cgi-bin/works/Home ACM Digital Library Portal, http://portal.acm.org/dl.cfm?coll=portal&dl=ACM&CFID=49046436&CFTOKEN=89131017 Digital South Asia Library, http://dsal.uchicago.edu California Digital Library, http://www.cdlib.org New Zealand Digital Library, http://www.sadl.uleth.ca/nz/cgi-bin/library UC Berkeley Digital Library, http://elib.cs.berkeley.edu/ Digital Resources & Exhibitions - Special collections at Case Western Reserve University, http://library.case.edu/ksl/research/eresources.html Digitale Bibliothek Uni-Augsburg, http://www.bibliothek.uni-augsburg.de/digbib/index.html Bibliotheksservice-Zentrum Baden-Württemberg G-Portal
<ul style="list-style-type: none"> Digitale Bibliothek NRW, http://abderos.hbz-nrw.de Bayrische Staatsbibliothek, http://www.bsb-muenchen.de/digital.htm

1 Digital Libraries and Business Models

DMG-Lib: A Sample for the Next Generation of Digital Libraries



2 Research Context → DMGLib

Motivation

- **Information flood, shortage & -loss**
 - ➔ digital libraries a new knowledge space
- **Goal:**
best possible access to information
in different views and data types
- **Characteristics:**
 - various digital resources
 - heterogeneous data types
 - different user groups
 - focused domain



Key factor for success: efficient information retrieval

2 Research Context → DMGLib

The Digital Mechanism and Gear Library – Project (1/2)

- interdisciplinary project of the TU Ilmenau, Dresden and RWTH Aachen
 - financed by the “German Research Foundation”
 - **Focus on the mechanisms and gears domain**
 - **Goals:**
 - collection
 - preservation
 - integration
 - systematization & enrichment
 - adequate presentation of knowledge on mechanisms and gears
- ➔ **efficient, uniform and user-satisfying information retrieval**



Online portal on: www.dmg-lib.org

2 Research Context → DMGLib

DMG-Lib – Project (2/2)

- satisfaction of different user groups:

- engineers
- scientists
- teachers & students
- librarians
- historians



- **DigitalizationPLUS**

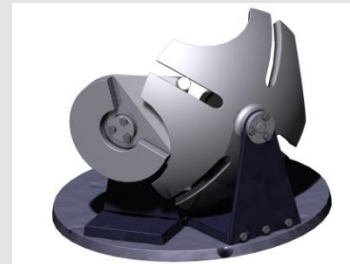
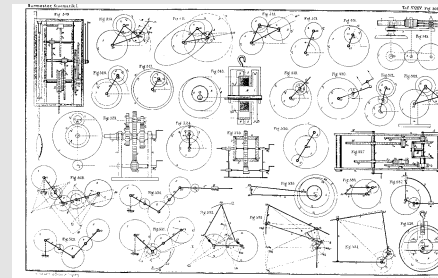
= enriched of digital resources with various additional information
(animations, meta-data, references, cross-linking)

➔ results, experiences, tool will help other digital libraries projects as well

2 Research Context → DMGLib

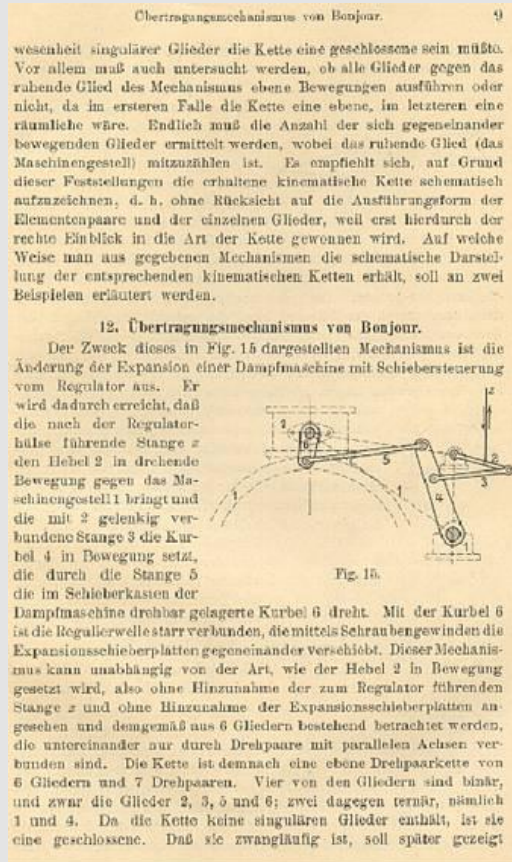
DMG-Lib – Information Sources

▪ solid models	> 1500
▪ pictures and slices	> 3500
▪ movies	> 100
▪ animations	
▪ books	
– older than 1899	> 400
– 1900 to 1930	> 380
– 1931 till today	> 350
▪ journal articles	> 5600
▪ VDI – guidelines	> 39
▪ patents	> 1000
▪ technical blue prints	> 1000
total:	<u>16.000</u>



2 Research Context → DMGLib

DMG-Lib – Enrichment



scanned book page



enriched book page

2 Research Context → DMGLib

Portal

The image shows a screenshot of the DMGLib (Digitale Mechanismen- und Getriebelbibliothek) portal. The main content area displays the title "Digitale Mechanismen- und Getriebelbibliothek" and "Freier Zugang zu wissenschaftlicher Information". Below this, there are four small images: a book, a display case, a person working at a desk, and a mechanical model. The text states: "Wissen auf dem Gebiet der Getriebetechnik war bisher nur schwer zugänglich. Die DMG-Lib eröffnet mit der Digitalisierung und Sammlung der heterogenen Materialien auf ihrer internationalen Plattform neue Möglichkeiten."

On the left sidebar, there are links for "Aktuelles", "Projekt DMG-Lib", "DMG-Lib erleben", "Stöbern", "Suche", "Studium und Karriere", "DMG-Lib e.V.", and "Hilfe". Below these are sections for "Förderinitiative 'Leistungszentren für Forschungsinformation'" and "Newsletter abonnieren".

On the right, there is a search results page for "Agricola, Georg". The results show his birth date as 24.3.1494 in Glouchau and death date as 21.11.1555 in Chemnitz. A brief biography follows: "Georg Agricola lieferte mit seinem Hauptwerk 'De re metallica' einen Markstein der maschinen-technischen Literatur. Als umfassend humanistisch gebildeter Gelehrter und kosmopolitischer Geist praktizierte er an der Schwelle zur Neuzeit ein fächerübergreifendes Denken in Zusammenhängen. Dabei verband er umfassende humanistische Gelehrsamkeit mit gründlichen montanwissenschaftlichen Kenntnissen. Agricola wird auch als Vater der Mineralogie und Begründer der Geo- und Montanwissenschaften bezeichnet."

Below the biography, there is a section for "Lebenslauf" (Biography) listing his positions: 1516-1522: Zwickau, Lehrer und Rektor an der Ratsschule; 1524-1526: Venedig, Lektor; 1527-1530: Joachimsthal, Stadtarzt und Apotheker; 1531-1555: Chemnitz, Stadtarzt und Bürgermeister. There is also a section for "Literatur" listing "De re metallica (um 1556)" and "Modelle: Zahnradgetriebe aus Holz zur Schachtförderung (1556)".

2 Research Context → DMGLib

Portal: Book Viewer

http://www.dmg-lib.org/dmglb/main/portal.jsp?mainNavState=browsen.docum.viewer&phyPageNo=1&d=61009

Startseite · Gesamtübersicht · Kontakt · Impressum · Datenschutz · Nutzungsbedingungen

aktuelle Sprache: Deutsch [Deutsch | English]

Sie sind hier: Stöbern > Literatur > Ansicht

Suchbegriff Suchen

2 Seiten 50% 13-14 von 14 Buchansicht

DMGLib

Aktuelles
Projekt DMG-Lib
DMG-Lib erleben

Stöbern

Literatur
Auswahl
Ansicht
Metadaten

Personen
Angereicherte Animationen

Suche
Studium und Karriere
DMG-Lib e.V.
Hilfe

DINI Workshop 2006
DEUTSCHE INITIATIVE FÜR NETZWERKINFORMATION EX
Technische Universität Ilmenau
10. Oktober 2006

Förderinitiative "Leistungszentren für Forschungsinformation"
Deutsche Forschungsgemeinschaft

7. Höhere Elementenpaare.
Höhere Elementenpaare heißen die Paare, bei denen ein Punkt, p , nachdem er dem einen oder dem andern Element eines Paares angehört, verschiedene Bahnen beschreibt, die also nicht umkehrbar sind. Als Beispiel werde das Rollengelenkpaar (Fig. 6) angeführt, bei dem der Punkt A mit dem Rad a angeschlossen ist, während derselbe Punkt als Punkt B des Rades b eine verschlungene Epitrochoide (s) gegen a durchläuft. Diese Kurve ist, so bei den Zahnradpaaren, den Kurvenpaaren usw. Die Berührung der Elemente kann hierbei nur in Kurven oder Punkten erfolgen.
Die höheren Paare sind entweder selbstständig oder unvollständig zwangsläufig. Im ersten Falle (dem selbst vorkommenden) ist die Form der Elemente so gewählt, daß durch sie die gegenseitige Bewegung der Elemente zu einer völlig bestimmten wird. Als Beispiele mögen die Kurvenpaare im unendlichen Rahmen genannt werden und deren Sonderfälle, die Kurvenpaare im Dreieck (Fig. 7) und das Kurvenpaar im Quadrat (Fig. 8).
Von wichtiger und häufiger sind die unvollständigen Paare, zu denen die Zahnäder, die starren Körper, die Dammenscheiben und gehören. Sie werden zwangsläufig beweglich gemacht durch Kraftschluß, wie z. B. das Hohlkugelpaar der Plethysmometer durch die Schwerkraft oder durch den Keitschluß, wie z. B. das aus einer Kurvenscheibe a von konstanter Breite und dem Rahmen b bestehende Paar, bei dem die Zwangsläufigkeit der gegenwärtigen Bewegung der Elemente dadurch herbeigeführt wird, daß beide gegen denselben Körper sich zu drehen, bzw. zu verschieben genötigt sind (s. Fig. 9).

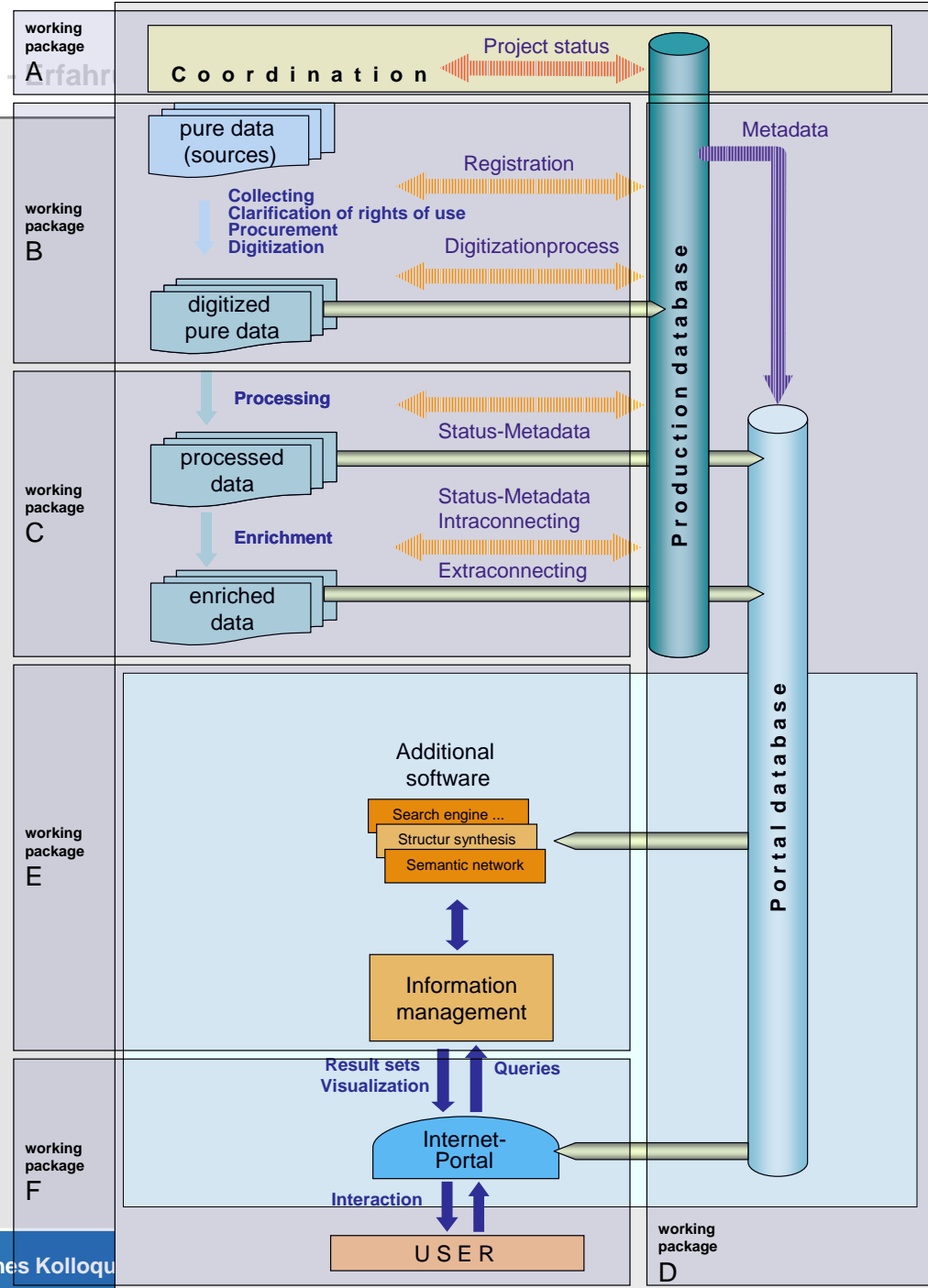
8. Bildende Elemente.
Hierunter versteht man solche, die ihre Gestalt zwar ändern, aber in einer bestimmten Richtung als starr angesehen werden können. Solche sind: α) Stäbe, Bänder und Ketten, die als Zugkraftorgane betrachtet werden; β) Flüssigkeiten in geschlossenen Gefäßen, die zur Übertragung einer Bewegung mittels Flüssigkeitsdruck verwendet werden und deshalb Druckkraftorgane genannt werden; γ) Federn, die infolge ihrer Gestaltänderung Zug- oder Druckkräfte entwickeln, durch die sie einer Kraftschluß bestehen und damit eine Bewegung verursachen.
Die Paarung der bildenden Elemente mit starren Körpern ist in den Anwendungen stets eine solche, daß die Bewegungsträger auch durch starr Verbindeungen, oder durch bewegliche Verbindungen mittels starrer Elemente erzeugt werden können, wie z. B. bei einem Seiltrieb, in dem zwei Seilelemente durch ein starr zwangsläufig verbunden sind, die Bewegungsträger von Element a auf b ersetzt werden können entweder durch das Zahnradpaar $a' b'$, oder durch eine Kapselung c , die gelenkig an a und b angeschlossen ist (s. Fig. 10). Deshalb bedürfen die Paare mit bildenden Elementen in den folgenden Untersuchungen, soweit sich diese auf Bewegungsvorgänge, insbesondere auf die Erzeugung zwangsläufiger Bewegungen erstrecken, keiner besonderen Berücksichtigung.

9. Die kinematischen Ketten.
Unter einer kinematischen Kette versteht man eine durch Elementenpaare verbundene solche Verbindung von Körpern, durch die die letzteren in ihrer gegenseitigen Beweglichkeit beschränkt werden. Die Körper selbst, die zueinander als starr vorausgesetzt werden, heißen die Glieder der Kette. So ist z. B. in Fig. 11 eine Kette schematisch dargestellt, die aus acht Gliedern besteht, die untereinander durch Drehpaare beweglich verbunden sind.
Die Anzahl der Elemente, die ein Glied enthält, ist ebenso groß, wie die Anzahl der Glieder, mit denen es in beweglicher Verbindung steht, also durch Elementenpaare verbunden ist. Wir nennen ein Glied singular, binär, ternär, quaternär, etc.

www.dmg-lib.org

2 Research Context → DMGLib

Production Workflow



The diagram illustrates the classification and relationships of mechanical joints and linkages. It is a hierarchical network where nodes represent different types of joints and linkages, and edges represent relationships between them. The nodes are color-coded: green for basic types, blue for specific types, and yellow for derived or related types.

Legend:

- is_full_synonym_of
- is_attribute_of
- is_hyponym_of
- is_hypernym_of
- is_component_holonym_of
- is_antonym_of
- is_derived_from
- is_morphologic_related_to

Key Nodes and Relationships:

- Gelenke (Joints):**
 - Kugelgelenke (Ball joints):**
 - Kugelpaar
 - Kugelpaar mit Pleuell
 - Kugelpaar mit Pleuell und Pleuellbolzen
 - Kurzelgelenke (Pin joints):**
 - Kurzelgelenk
 - Kurzelgelenk mit Pleuell
 - Kurzelgelenk mit Pleuell und Pleuellbolzen
 - Ebenen (Planes):**
 - Ebenen-Koppelgelenke (Planar joints):**
 - Ebenen-Koppelgelenk
 - Ebenen-Koppelgelenk mit Pleuell
 - Ebenen-Koppelgelenk mit Pleuell und Pleuellbolzen
 - Ebenen-Koppelgelenke (Planar joints):**
 - Ebenen-Koppelgelenk
 - Ebenen-Koppelgelenk mit Pleuell
 - Ebenen-Koppelgelenk mit Pleuell und Pleuellbolzen
 - Ebenen-Koppelgelenke (Planar joints):**
 - Ebenen-Koppelgelenk
 - Ebenen-Koppelgelenk mit Pleuell
 - Ebenen-Koppelgelenk mit Pleuell und Pleuellbolzen
 - Ketten (Linkages):**
 - Ebenen-Koppelgelenke (Planar joints):**
 - Ebenen-Koppelgelenk
 - Ebenen-Koppelgelenk mit Pleuell
 - Ebenen-Koppelgelenk mit Pleuell und Pleuellbolzen
 - Ebenen-Koppelgelenke (Planar joints):**
 - Ebenen-Koppelgelenk
 - Ebenen-Koppelgelenk mit Pleuell
 - Ebenen-Koppelgelenk mit Pleuell und Pleuellbolzen
 - Ebenen-Koppelgelenke (Planar joints):**
 - Ebenen-Koppelgelenk
 - Ebenen-Koppelgelenk mit Pleuell
 - Ebenen-Koppelgelenk mit Pleuell und Pleuellbolzen

The diagram also includes several images at the bottom: a technical drawing of a linkage mechanism, a photograph of a mechanical assembly, and a photograph of a mechanical component.

3 Technology → Topic Maps

Topic Maps

Definition

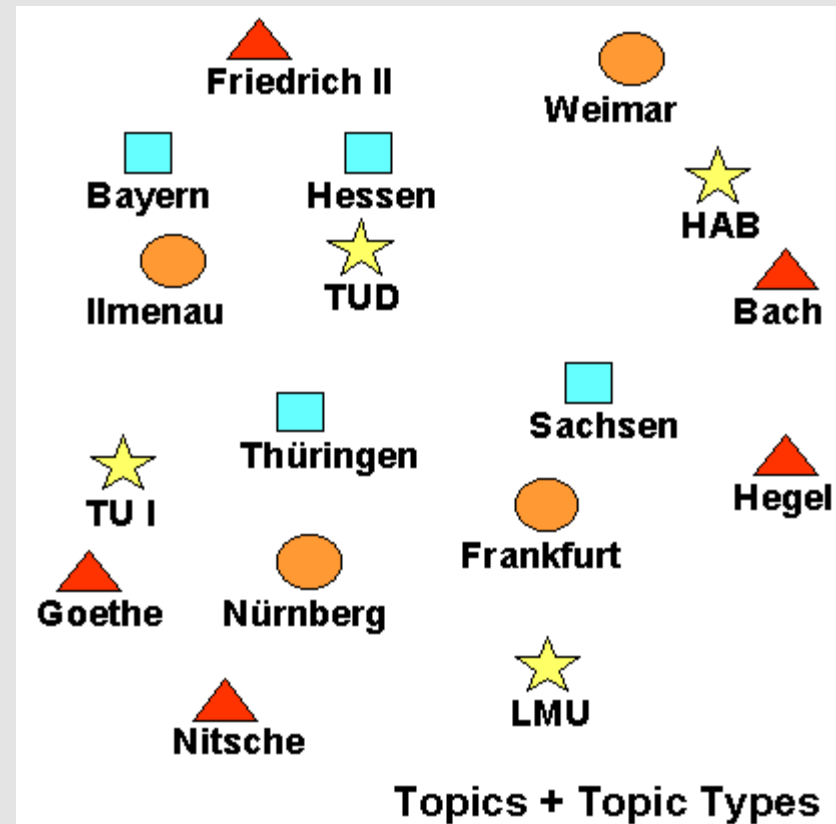
- “**Topic Maps** is a standard for the representation and interchange of knowledge, with an emphasis on the findability of information. The **ISO** standard is formally known as **ISO/IEC 13250:2003**.
- A single information set can include any number of types of source data: for example, HTML files, PDF files, and databases could all be part of one information set.
- A Topic Map provides a particular view of topics within the information set. There could be, potentially, an infinite number of different TMs for any information set: for example, an information set dealing with the plays of Shakespeare could have a TM for navigation within the perspective of Elizabethan culture, or the perspective of themes throughout the plays. Each TM explicitly declares topics and provides links to relevant information.”

Vgl: http://searchwebservices.techtarget.com/sDefinition/0,,sid26_gci520451,00.html

3 Technology → Topic Maps

Topic and Topic Types

- A Topic is a resource that acts as a proxy for some subject; it is the topic map system's representation of that subject. The relationship between a topic and its subject is defined to be one of reification. Reification of a subject allows topic characteristics to be assigned to the topic that reifies it.
- Each individual topic is an instance of one or more classes of topics (also known as Topic Types) that may or may not be indicated explicitly. The default topic type is defined by the “topic” published subject.

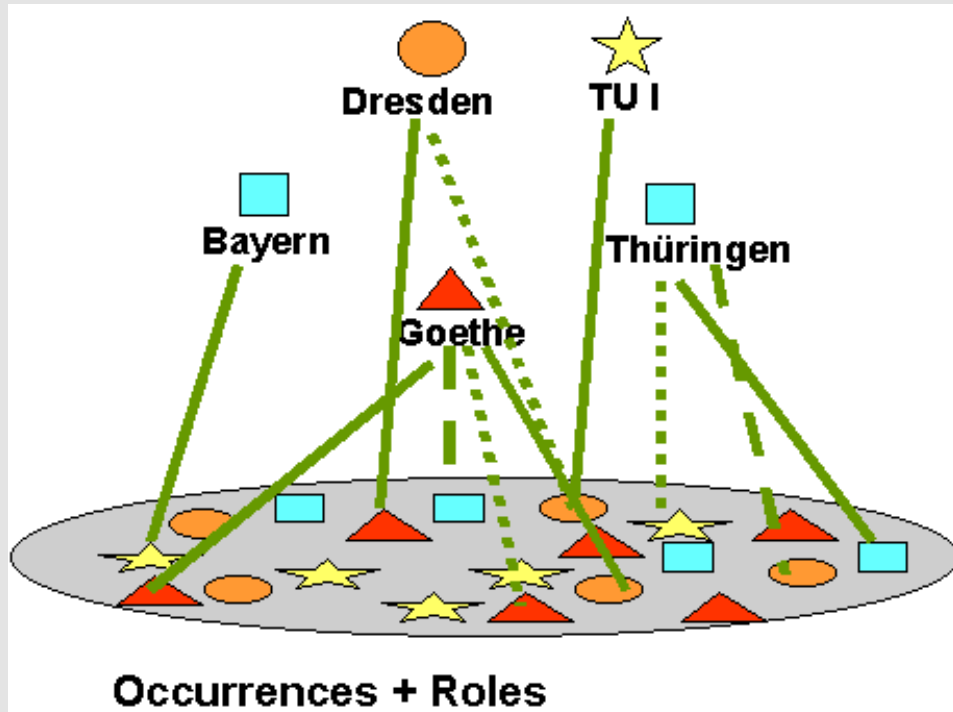


Vgl.: <http://www.topicmaps.org/xtm/index.html>

3 Technology → Topic Maps

Occurrences and Occurrences Types

- An **Occurrence** is any information that is specified as being relevant to a given subject.
- Occurrences constitute one of the three kinds of characteristic that can be assigned to a topic and are therefore governed by scope.
- Each individual occurrence is an instance of a single class of occurrence (also known as an **occurrence type**) that may or may not be indicated explicitly. The default occurrence type is defined by the “occurrence” published subject.

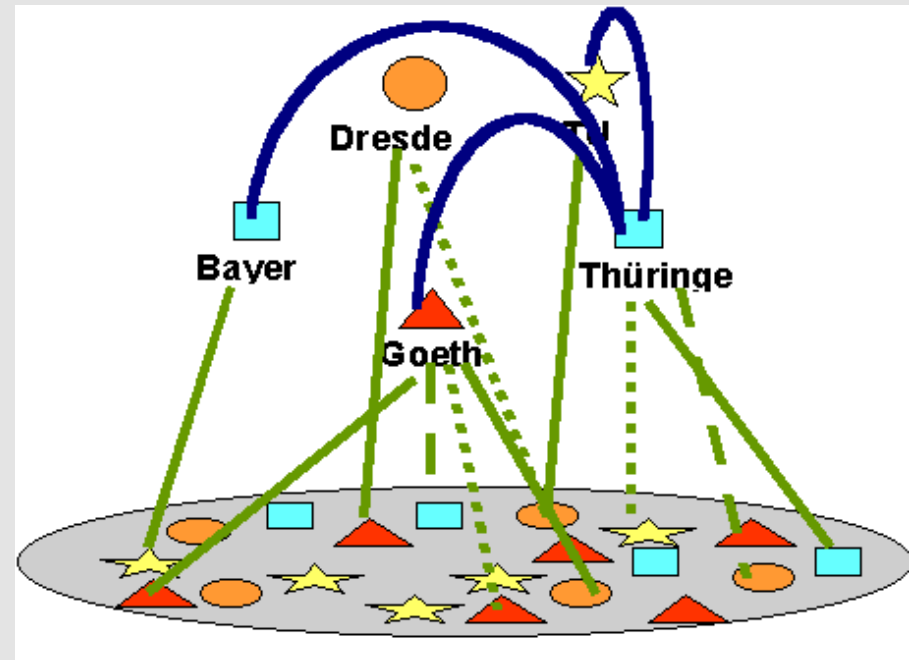


Vgl.: <http://www.topicmaps.org/xtm/index.html>

3 Technology → Topic Maps

Associations

- An association is a relationship between one or more topics, each of which plays a role as a member of that association.
- The roles a topic plays in associations are among the characteristics that can be assigned to it and are therefore governed by scope.
- Each individual association is an instance of a single class of association (also known as an association type) that may or may not be indicated explicitly. The default association type is defined by the “association” published subject.



Vgl.: <http://www.topicmaps.org/xtm/index.html>

3 Technology → Topic Maps

Scopes

- Scope specifies the extent of the validity of a topic characteristic assignment.
- It establishes the context in which a name or an occurrence is assigned to a given topic, and the context in which topics are related through associations.
- Every characteristic has a scope, which may be specified either explicitly, as a set of topics, or implicitly, in which case it is known as the unconstrained scope. Assignments made in the unconstrained scope are always valid.

```
<TOPIC id="deutsch">
<TOPIC id="englisch">
<TOPIC id="französisch">
<TOPIC id="Städte">
    <NAME scope="deutsch">
    <FULLNAME>Städte</FULLNAME>
    </NAME>
<NAME scope="englisch">
    <FULLNAME>Cities</FULLNAME>
    </NAME>
<NAME scope="französisch">
    <FULLNAME>Villes</FULLNAME>
    </NAME>
</TOPIC>
```

Vgl.: <http://www.topicmaps.org/xtm/index.html>

3 Technology → Topic Maps

XTM-DTD

```

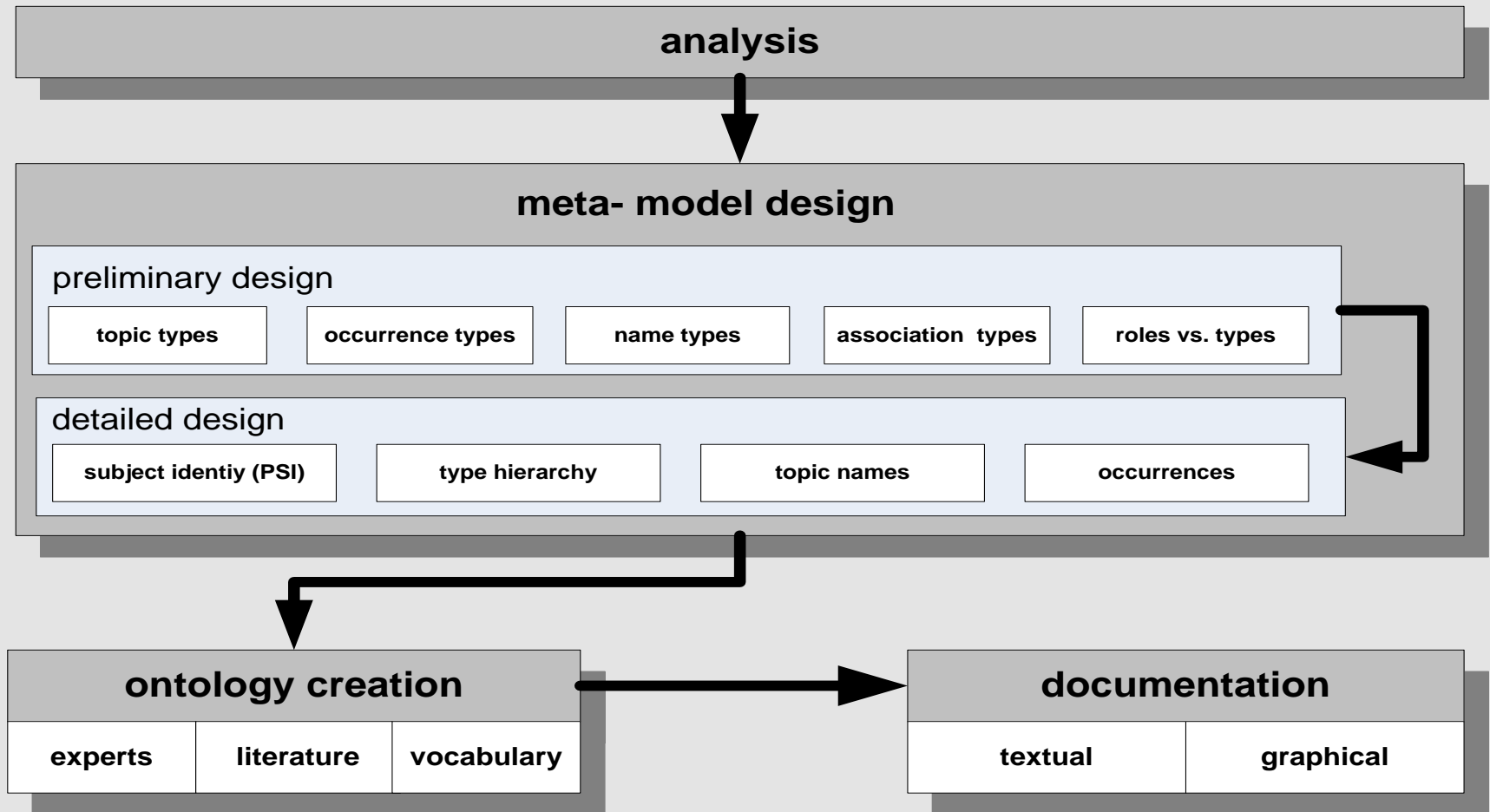
<!-- DTD for Contributors documents -->
<!-- DOCTYPE DOCUMENT PUBLIC "-//STEP//DTD Topic Map XML DTD v1.0//EN" [] -->
<!-- COPYRIGHT - (C) STEP-uk -->
<!-- AUTHOR:    Graham Moore -->
<!-- ***** -->
<!-- topicmap is the root element -->
<!-- ***** -->
<!ELEMENT  topicmap          (topic | assoc | facet)*>
<!ATTLIST  topicmap
    xmlns:xlink      CDATA          #FIXED "http://www.w3.org/XML/XLink/0.9"
    name             CDATA          #IMPLIED>
<!-- ***** -->
<!ELEMENT  topic            (topname* , occurs*)>
<!ATTLIST  topic
    xmlns:xlink      CDATA          #FIXED "http://www.w3.org/XML/XLink/0.9"
    ID               ID             #REQUIRED
    xlink:type       (simple|extended|locator|arc) #FIXED "extended"
    types            CDATA          #IMPLIED
    scope            CDATA          #IMPLIED
    identity         CDATA          #IMPLIED
    linktype         CDATA          #IMPLIED>
<!-- ***** -->
<!ELEMENT  occurs           EMPTY>
<!ATTLIST  occurs
    xmlns:xlink      CDATA          #FIXED "http://www.w3.org/XML/XLink/0.9"
    xlink:type       (simple|extended|locator|arc) #FIXED "locator"
    xlink:href       CDATA          #REQUIRED
    type             CDATA          #IMPLIED
    occrl            CDATA          #IMPLIED
    ...

```

4 Lessons Learned → Lesson 1: Workflow

- Key challenge: model the relevant aspects of the application domain to enhance the Information Retrieval with semantic technologies
 - Application domain: Gears, Mechanisms, Curves, Tables, Solid Gear models, Videos, ...
- Very complex and time consuming process
 - Necessary to reduce complexity by structuring this process
 - How?
 - Adopt a Workflow for Ontology design for TM application

4 Lessons Learned → Lesson 1: Workflow

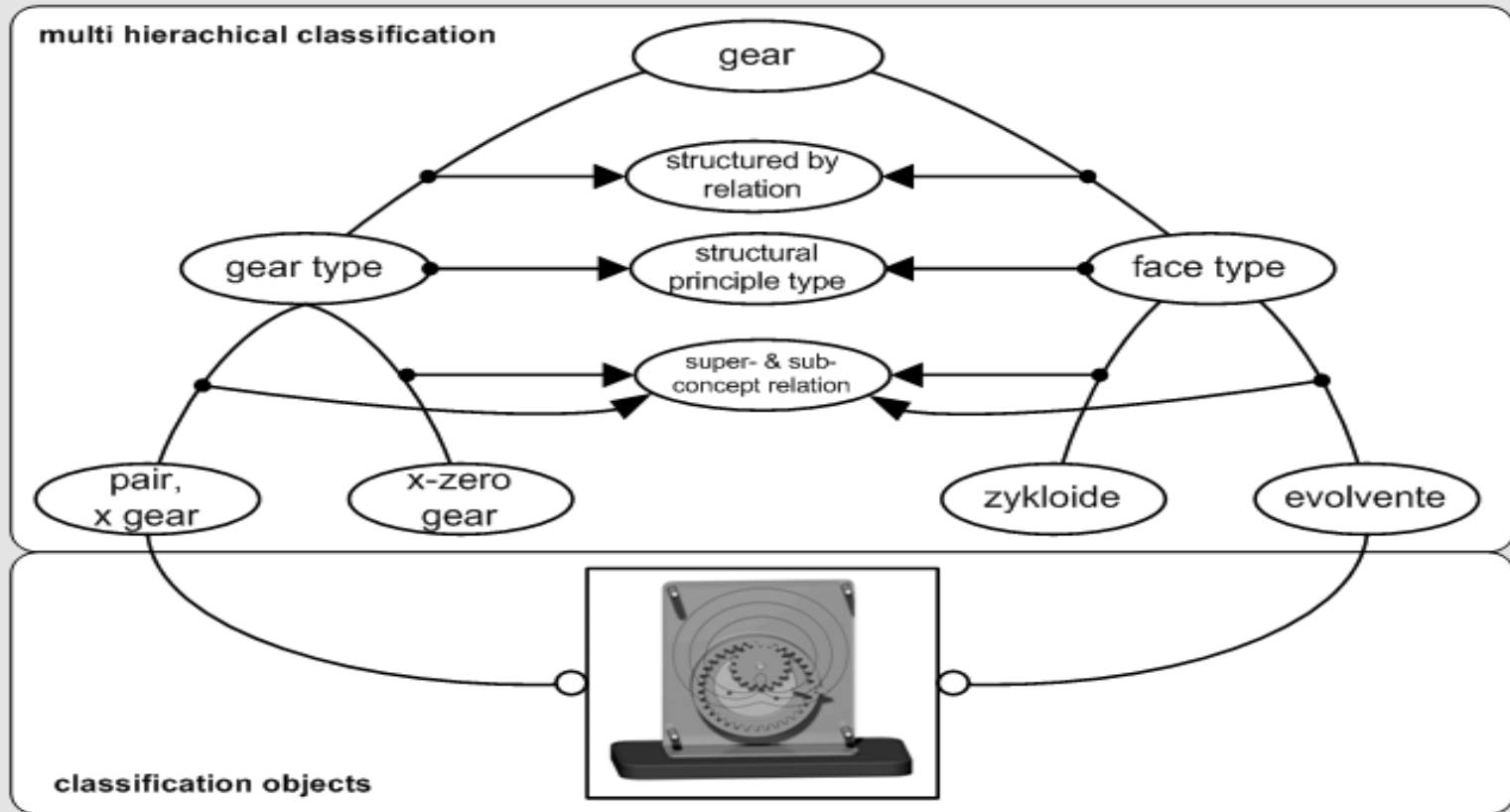


4 Lessons Learned → Lesson 2: (Meta-)Modeling

- (Meta-)model necessary
 - To describe syntax and semantic of the modeled structures and its elements (**topics**: names, base name, scope, identifier (PSI), **associations...association types...occurrences...**)
 - To simplify the upgrading of the TM
 - To simplify and support the collaboration within the modelling process
 - Example: subjects are represented as an individual topic node identified by the `<subjectIdentity>` of the `<topic>` element or via PSI

```
<topic id="123">  
<subjectIdentity>  
<subjectIndicatorRef  
  xlink:href=" http://dogbert.prakinf.tu-  
  ilmenau.de/~hendrik/dmglib/doku.php?id=psi2:psi1.1.1" />  
</subjectIdentity>  
</topic>:
```

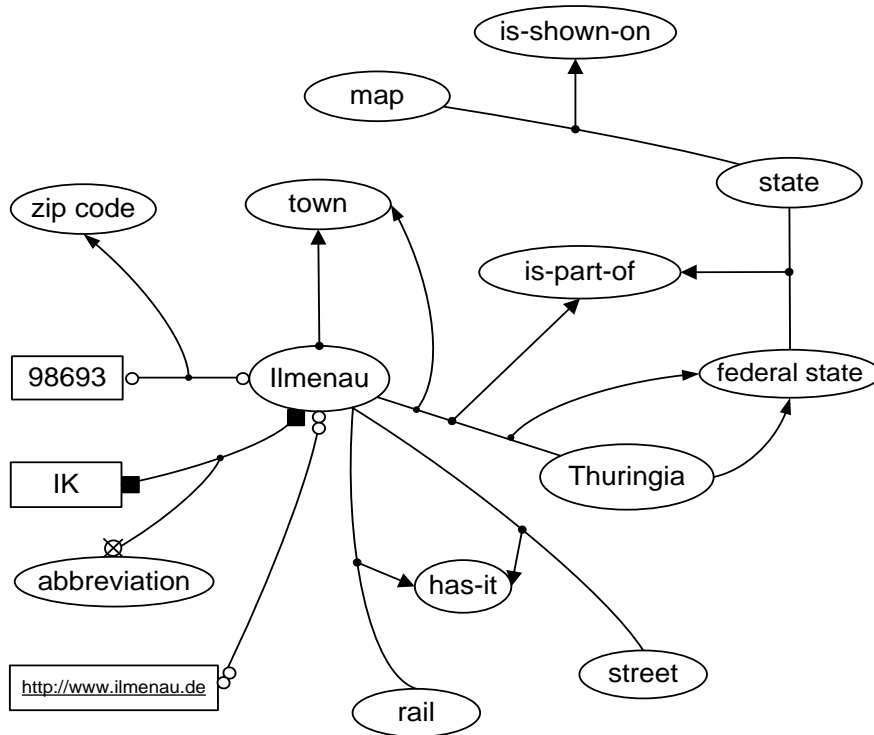
4 Lessons Learned → Lesson 2: (Meta-)Modeling



4 Lessons Learned → Lesson 3: Notation

- Ontology creation is a collaborative process
- Several types of users involved:
 - Knowledge engineers
 - Librarians
 - Domain experts (machine building engineers,
 - Users
- Support of discussion
- Documentation
 - Graphical representation is necessary

4 Lessons Learned → Lesson 3: Notation

domain view of the topic map draft in GTM^{beta}:**topic map draft in LTM:**

```

/*topics*/
[Ilmenau:town = ``Ilmenau"; ; /German
= ``IK"/abbreviation)
@``http://www.ilmenau.de"]
[Thuringia: federal state]
[street: traffic connection]
[rail: traffic connection]
[state] [map]
/*associations*/
is-part-of (Ilmenau:town,
Thuringia:federal state)
is-part-of (federal state, state)
is-shown-on (state, map)
has-it (Ilmenau, street)
has-it (Ilmenau, rail)
has-status (Ilmenau, county seat)
/*occurrence*/
{Ilmenau, zip code, [[98693]]}

```

GTM^{beta}

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* 15.10.2008 *

Abstract. In the last 5 years several drafts, recommendations and standards for a graphical notation for Topic Maps have been published. Until today no graphical notation is generally approved and used by the Topic Maps community. This paper presents GTM^{alpha} as a new notation for a graphical representation of Topic Maps. The objective is to provide a practical usable notation, which allows consistent as well as easy to use graphical representations of given topic map drafts. GTM^{alpha} provides a domain- as well as a topic-centric view and most importantly it considers the unique character of the Topic Maps paradigm. This paper serves as a user oriented manual for ontology designers, domain experts as well as for topic map designers.

1. BASIC DESIGN

- 2 dimensional graph layout & black and white
- Topics represented by a unique shape
- Data values represented by a unique shape
- Add symbols to indicate the role of an element

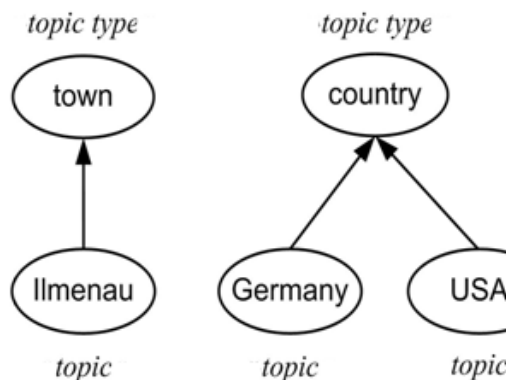
(Topic) Types	Topic Name	Scope	Subject Identity
↑	Base Name ■	⊗	Subject Identifier ○○
	Variant Name □		Subject Locator ●●

- Any text outside a shape is a comment

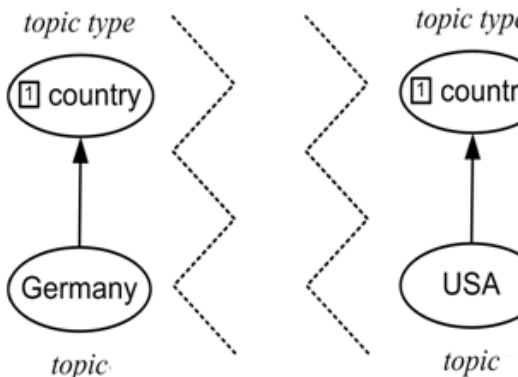
2. TOPICS



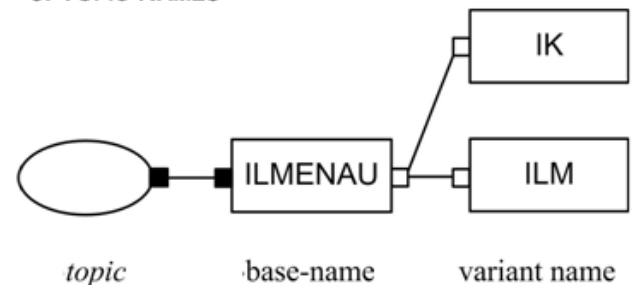
3. TOPICS TYPES



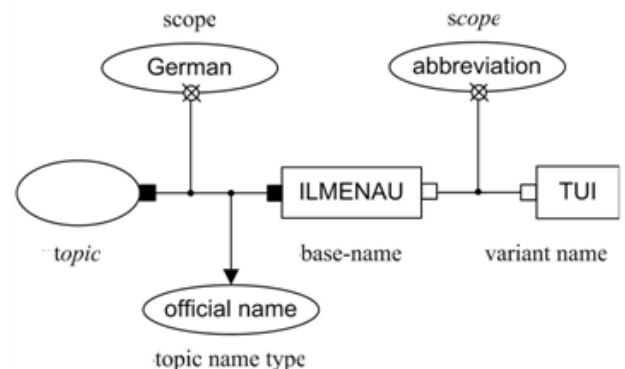
4. ONE-TOPIC-PER-SUBJECT



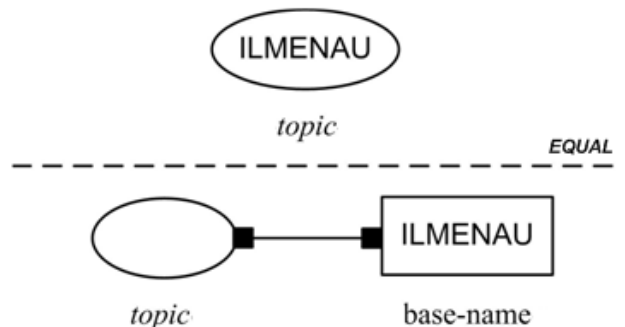
5. TOPIC NAMES



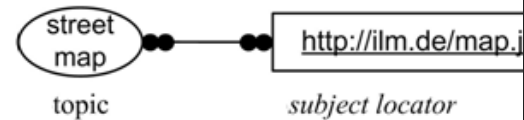
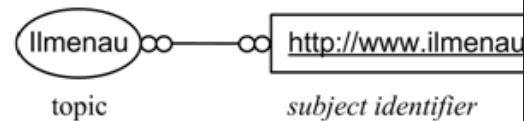
6. TOPIC NAMES WITH TYPE AND SCOPE



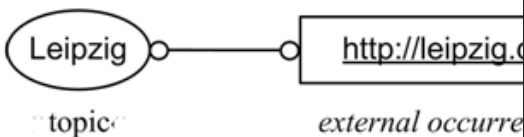
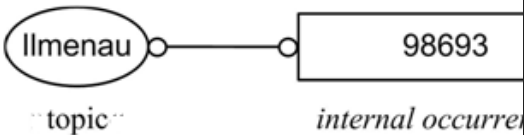
7. TOPIC NAMES SHORT CUT



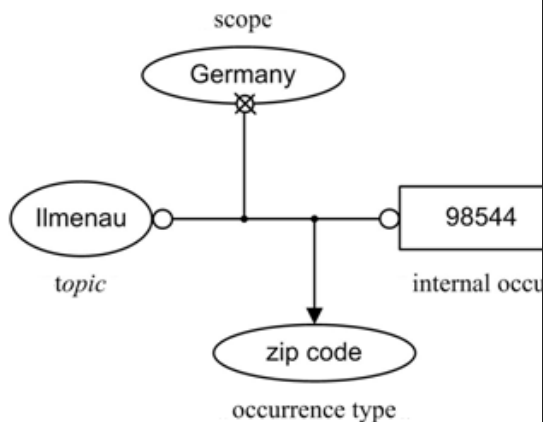
8. SUBJECT IDENTITY



9. OCCURRENCES



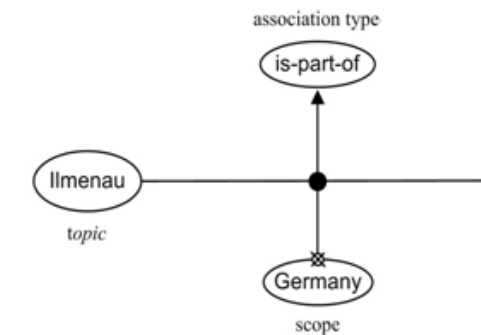
10. OCCURRENCES WITH TYPE AND SCOPE



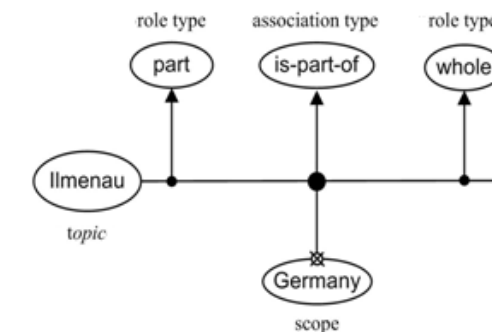
11. SIMPLE ASSOCIATION



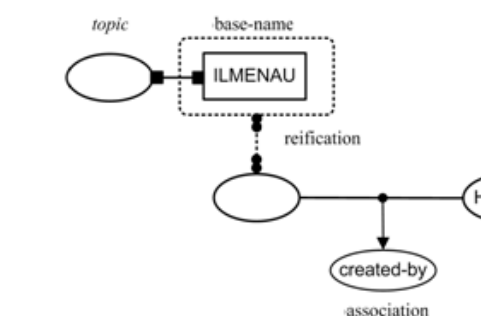
12. ASSOCIATION WITH TYPE & SCOPE



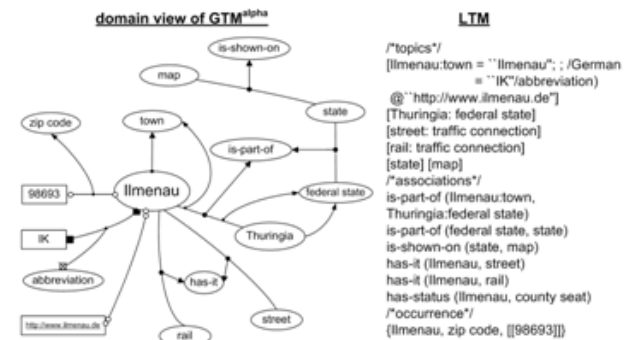
13. ASSOCIATION WITH TYPE & SCOPE & ROLE



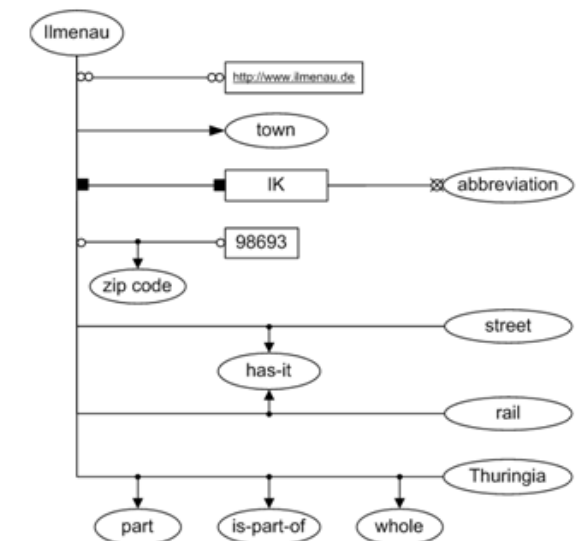
14. REIFICATION



15. VIEWS



subject centric view of GTM^{alpha}



16. BEST PRACTICE HINTS

- use of color is not forbidden - useful to highlight important things
- size of symbols not pre-defined - increase the size of a topic to draw attention to it
- connecting lines can be straight or curved depending on the layout
- crossings of lines should be avoided
- lines for associations should be drawn thicker than lines between Topic Maps constructs
- all symbols and elements can be rotated, without losing their unambiguous meaning

4 Lessons Learned → Lesson 4: Editing

- Process of creation of the Topic Map is very complex
- Calls for tool support
 - Especially in the construction phase a powerful editor is necessary
 - Requierments:
 - Support of collaborative modeling process
 - User friendly, fast, adoptable
 - Basic search capabilities
 - Unicode support
 - Support the two task editing process
 - (1) Encode the identified concepts into a topic map
 - (2) Link the concepts with addressable relevant information resources

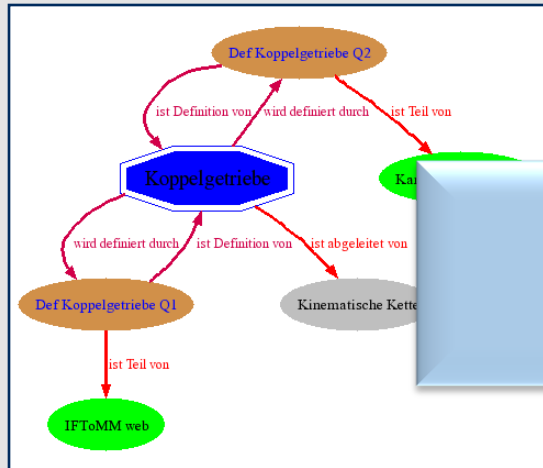
4Lessons Learned → Lesson 5: Visualization

Remember Lesson 3 !

- Ontology creation is a collaborativ process
- Several types of users involved:
 - Knowledge engineers
 - Librarians
 - Domain experts (machine building engineers,
 - Users
- Support of discussion
- Documentation
 - Graphical representation is necessary
 - Visualization of the representation is:
 - essential for the communication
 - a helpful supplement for the information retrieval

4 Lessons Learned → Lesson 5: Visualization

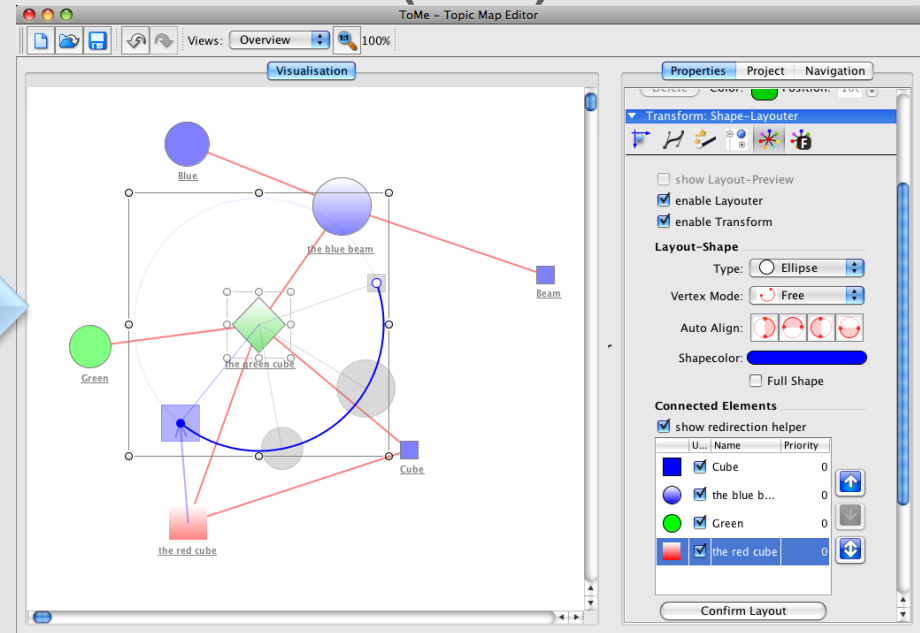
TMV (2006)



Topic Map Viewer within the TMWiki-enviroment

- + Hierarchical views
- + Pearl implementation (slow)
- Permanent change of the figure
- Limited to a network representation

TMchartis (2008)



Standalone TM-Viewer

- + Problem oriented views
- + Configureable interface (user interface, colours, shapes, lours)
- + Network compatibel (java based)
- Needs MySQL-DB

4 Lessons Learned → Lesson 6: Integration

- Modeling the gears and mechanism domain with TopicMaps offers a lot of opportunities for integration and application
- Main problem:
 - capability to infer from the information resources to the concepts encoded in the topic map and vice versa
- Some prototyping solutions:
 - Semantics enhanced full text search
 - Integration of the various text
 - TMGlossar
 - TMDictionary

4 Lessons Learned → Lesson 6: Integration

TMGlossar

DMG-Lib: Stöbern, Software - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe dsjido.us

http://dmgl.maschinenbau.tu-illmenau.de:8080/dmglib/glossar_demo/portal.jsp.html

Cohere Website Regi... pic Uni_Exchange Quasar Quality Assu... calendar The Web's best Free ... Wiki - EduCamp2003 ... Cursed Winds | Ehre...

DMG-Lib: Stöbern, Software DMG-Lib: Stöbern, Software DMG-Lib: Stöbern, Software

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DMG

Startseite · Aktuelles · Stöbern · Suche · DMG-Lib erleben · Hilfe

Suchbegriffeingeben Suchen Erweiterte Suche

Glossar - Buchstabe Ш

Sammlung der wichtigsten Begriffe aus der Welt der Mechanismen und Getriebetechnik

ШАГ ВИНТА	Поступательное перемещение винта при одном полном обороте. <i>Alternative Bezeichnungen: -</i>
ШАГАЮЩАЯ МАШИНА	движения подобные движениям человека или животных. <i>Alternative Bezeichnungen: -</i>
ШАГОВОЕ ДВИЖЕНИЕ	Одностороннее выстоями. <i>Alternative Bezeichnungen: -</i>
ШАГОВЫЙ МЕХАНИЗМ	Механизм, в котором выходное звено совершает движения в одном направлении с периодическими выстоями. <i>Alternative Bezeichnungen: -</i>
ШАГОВЫЙ РОБОТ	Робот с остановками в крайних точках хода каждого его исполнительного механизма. <i>Alternative Bezeichnungen: "РОБОТ С ФИКСИРОВАННЫМ ШАГОМ",</i>
ШАРНИР ГУКА	Кинематическое соединение, соединяющее два вала с пересекающимися осями. <i>Alternative Bezeichnungen: ШАРНИР</i>

Gesamtbestand
6474 relevante Begriffe der Getriebe- und Mechanismentechnik

Anfangsbuchstabe des Nachnamens
ABC А Б В Г Д Ж З И К Л М Н О П Р С Т У Ф Х Ц Ч Ш Э Я

Sprache
Deutsch Englisch Französisch Russisch

Newsletter abonnieren
Die neuesten Mitteilungen als Newsletter.
E-Mail-Adresse
Absenden

Anschaffungsvorschlag
Falls Sie Inhalte (Literatur, Modelle, Personen etc.) vermissen, freuen wir uns auf Ihre Hinweise. Bitte machen Sie einen Vorschlag!

DMG in Deutschland

Fertio

zotero

4 Lessons Learned → Lesson 6: Integration

TMDictionary

DMGLib: Stöbern, Software - Mozilla Firefox

http://dmgl.maschinenbau.uni-ilmeneu.de:8080/dmglb/glossar_demo/portal_dict.jsp.html

DMGLB

Startseite + Aktualis. Stöbern Suche DMGLib erleben Hilfe

Suchbegriff eingeben Suchen Erweiterte Suche

Wörterbuchsuche

Suchbegriff: Kopp

Einstellungen

☒ Wildcard-Suche (z.B. *Zahnrad*)

Abbrechen Suche starten

Treffer im Wörterbuch zu "KOPPEL"

Wörterbuch der Mechaniken und Getriebetechnik

1 **KOPPEL**

Deutsch	KOPPEL
Englisch	COUPLER Synonyme: "FLOATING LINK"
Französisch	BARRE DE COUPLAGE Synonyme: "MEMBRE FLOTTANT" "BIELLE"
Russisch	ШАТУН Synonyme: "ПЛАВАЮЩЕЕ ЗВЕНО"

2 **RÄDER-KOPPEL-GETRIEBE**

Deutsch	RÄDER-KOPPEL-GETRIEBE
Englisch	GEARED LINKAGE
Französisch	MECANISME ARTICULE A ENGRENAGE
Russisch	СЪСЧАТО-РЪВНАЖНЫЙ МЕХАНИЗМ

Gesamtbestand

6474 relevante Begriffe der Getriebe- und Mechanikstechnik

Verfügbare Übersetzungen

deutsch (1997)
englisch (1862)
französisch (1838)
russisch (1978)

Newsletter abonnieren
Die neuesten Mitteilungen als Newsletter.
E-Mail-Adresse
Absenden

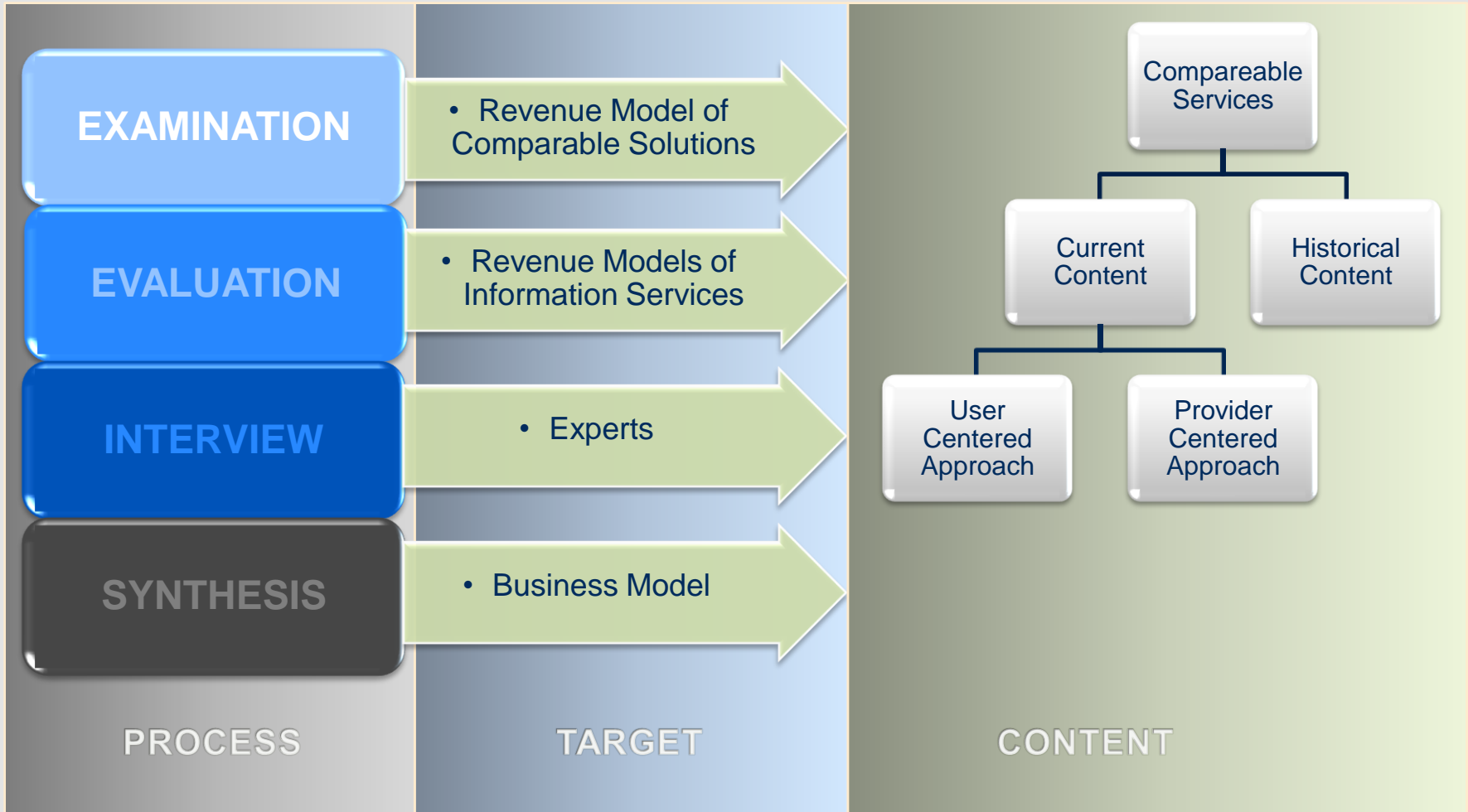
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ICT-MMM in Deutschland

Fertig

Zotero

5 Sustainability → Roadmap for Business Model Development



6 Summary

- Semantic technologies are able to improve Information Retrieval process for DL's
- Ontology development is a complex process
 - It demands for Collaborative Development
 - It demands for Tool Support
- Business model is essential for a sustainable survival
- Managing people are the trickiest part of the project

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Thnx for your attention !!

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