

Report From the Open Space Sessions of TMRA 2008

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Abstract. This is a summary of the presentations made in the two open space sessions at the TMRA 2008 conference. The open space sessions were free-form sessions where anyone could sign up to do a short presentation. The result is a collection of reports on works in progress and interesting ideas, some of which are likely to appear as papers at next year's conference.

1 Introduction

The following is a summary of the open space sessions at the TMRA 2008 conference based on the slides used by the presenters and impressions from the conference itself. The contributions were informal and non-refereed, since workshop attendees had been given the opportunity to sign up to short talks on a flip chart during the conference, and the suggested format for each presentation was five minutes presentation, and five minutes discussion. Both sessions were moderated by Lars Marius Garshol. The outcome of this “playground for visionaries” is this report on forward-looking work in progress. Besides the presentations documented below, there were two conference announcements for Knowledge Federation 2008 by Dino Karabeg and for XML Holland 2008 by Gabriel Hopmans which are not described in detail.

2 A Step Towards TMDM 3.0

In this presentation³ Benjamin Bock (University of Leipzig), Robert Barta (Austrian Research Center), Xuân Baldauf (University of Leipzig) und Lutz Maicher (University of Leipzig) proposed several changes in the TMDM standard. The first proposal is the removal of variants because “they are just a relic from times when names were not typed”. Furthermore occurrences and names might be unified to typed characteristics. This reflects the approach in the current TMQL

³ <http://www.topicmapslab.de/publications/a-step-towards-tmdm-30-presentation>

draft. Similar to Lutz Maicher's Open Space presentation "Reification vs. Annotation" at TMRA 2007 two types of reification are requested: r_0 as reification of the subject of the statement and r_1 as reification of the assertion itself. Additionally the clarification of the scope concept is requested, or alternatively its elimination proposed. Finally, a kind of sorted container for representing lists in topic maps is desired.

3 Story Driven Development

In this presentation⁴ Benjamin Bock and Lutz Maicher (both University of Leipzig) invite to brainstorm about the how-to improve the whole development process for portals and other applications. The idea of Story Driven Development is summarized as follows: "If you ask people what they do, most people tend to tell a story. Try to catch the stories, identify them, modelize them. Use the domain model throughout." Similar to the layers of abstractions in information theory – Knowledge, Information, Data – a similar layered approach is proposed for the story perspective - Story, Function Point, Algorithm.

4 CTM/LTM Syntax Highlighting for Vim, Emacs, etc.

In this presentation⁵ Reidar Bratsberg and Jan Schreiber (both Ravn, Oslo) present their CTM and LTM syntax highlighting plugins for VIM and Emacs.⁶ They invite the community to provide further plugins for TextMate, Eclipse, and UltraEdit.

5 Dense Topic Maps

Xuân Baldauf (University of Leipzig) explains the idea of Dense Topic Maps⁷ by the example of annotating DNA data. It is shown, that for storing the type of a DNA and the probability of its classification 5 bytes are needed. When this information is represented in XTM 2.0 683 bytes per DNA base is needed, which is a bloat factor of 137. The same information in CTM might need 42 bytes per DNA base, which is still a bloat factor of 8.4. As a visionary idea Baldauf envisages domain specific dense formats for topic maps which allows bloat factors of 1. Such an approach allows a migration path from many custom data formats to Topic Maps and allows a (limited) migration path to many custom data formats from Topic Maps.

⁴ <http://www.topicmapslab.de/publications/story-driven-development-presentation>

⁵ <http://www.topicmapslab.de/publications/ctmltm-syntax-highlighting-for-vim-and-emacs-presentation>

⁶ The plugins are freely available at <http://software.ravn.no/syntax-highlighting>

⁷ <http://www.topicmapslab.de/publications/dense-topic-maps-presentation>

6 Topic Maps in ‘Not Working on the Web Shock!’

In this presentation⁸ Graham Moore (NetworkedPlanet, Oxford) discusses the problem that the TMDM has no way to reliably expose a web address for a specific topic (as a concrete, retrievable thing). Item identifiers are there, but not necessarily in the serialisation and in the model it is not known which item identifiers are web addressable. Moore proposes the following three ideas. 1. Extend the TMDM to have a new collection of web addresses 2. Have a subject identifier convention something like *urn:topicmap:www.oks.com/topics/454*. Where to resolve *urn:topicmaps* can be replaced with *http://* 3. Do the same but with item identifiers, but this won’t work with XTM 1.0.

7 Metaphor-centric Computing

Dino Karabeg (University of Oslo) introduces the idea of metaphor-centric computing⁹, inspired by the motto “subject-centric computing” of the TMRA 2008 conference. His axioms of subject-centric computing are that people think in terms of subjects and subjects give them a good framework for organizing information. According Karabeg, thus frameworks might be metaphors. Consequently, metaphors should be provided and the users should fill in the details.

8 What is a Subject?

The start of Hendrik Thomas’ (Trinity College, Dublin) presentation¹⁰ is the fundamental rule, that within a topic map each relevant subject must be represented by exactly one topic. Afterwards the semiotic triangle – with its dimensions referent, symbol and concept is introduced. Thomas states further, that the interpretation of a symbol depends of the context of the receiver. The context determines, which concept is shaped in the receiver’s mind when interpreting a symbol. And this concept in each receiver’s mind defines which referent is personally related to the symbol. In the field of topic maps we can interpret this insight, that the creator of a topic can only intend which subject it refers to, but each recipient of a topic might process his or her own interpretations.

9 idSpace

In this presentation¹¹ Gabriel Hopmans (Morpheus Software, Maastricht) introduces the idSpace project¹². This project is funded by the EC in the FP7

⁸ <http://www.topicmapslab.de/publications/topic-maps-in-not-working-on-the-web-shock-presentation>

⁹ <http://www.topicmapslab.de/publications/metaphorcentric-computing-presentation>

¹⁰ <http://www.topicmapslab.de/publications/what-is-a-subject-presentation>

¹¹ <http://www.topicmapslab.de/publications/idspace-presentation>

¹² <http://www.idspace-project.org>

framework under the Grant no. 216199. The project fits into the call FP7-ICT-2007-1-4.1. The consortium of idSpace is Open Universiteit Nederland, Aalborg University, University Cyprus, Extreme Media Solutions, Link, University Piraeus Research Centre, University Hildesheim, Space Applications Services and Morpheus Software. The goal of the project is the development of a toolbox for collaborative, distributed product innovation to support innovation processes. It should become a kind of mind mapping tool but better with all kinds of good features of the creativity techniques, context awareness and of course with Topic Maps. The first outcome of the project is presented at the TMRA 2009 conference.

10 libtmm

Jan Schreiber (Ravn, Oslo) introduced¹³ libtmm¹⁴, a TMM engine written in C. This engine is seen as a basis for implementing TMQL. The engine exposes a (proprietary) TMM API with backends for persistence (Postgresql). TMAPI or a TMQL implementation might use this TMM API of libtmm. The already implemented prototype in PHP was able to import and query the opera.tmm. The infrastructure seems to be in place (storage layer, framework for modules) and most of the path expressions and functions to create/delete proxies and properties have been implemented. Missing is a stabilize API, a TMDM layer, a Berkeley DB storage module, wrappers for other languages and a TMQL implementation. As main advantage of for writing this TMM engine in C the vast amount of wrappers in other languages is highlighted.

11 NRK/Skole

Lars Marius Garshol (Bouvet, Oslo) presented¹⁵ the NRK/Skole¹⁶ website. This web application is an educational tool for Norwegian pupils where video clips from the archives of the Norwegian National Broadcast are integrated with the Norwegian school curriculum. The official Norwegian primary and secondary school curriculum is published as a topic map by the Department of Education, greatly facilitating this integration. The stack behind the scenes is Ontopia as Topic Maps engine, Polopoly as content management system, MySQL as database and Resin as application server. The information architecture of the whole web application is subject-centric.

¹³ <http://www.topicmapslab.de/publications/libtmm-presentation>

¹⁴ <http://code.google.com/p/libtmm>

¹⁵ <http://www.topicmapslab.de/publications/norwegian-national-broadcasting-use-case-presentation>

¹⁶ The website is available at <http://nrk.no/skole>

12 DynPSI

Stian Danenbarger introduced¹⁷ the ideas of dynamic PSIs. He proposes to not interpret subject equality as binary decision. Instead he introduces the metaphor of the color spectrum as vector space. A specific region within this space is recognized as one colour. Danenbarger could imagine the same approach for subject identification, where equally would mean something like similarity of the vectors -or being within the same region -within this space.

13 The Value of Topic Maps

Inspired by Nicholas Carr's bestseller "Does IT matter" Stian Danenbarger (Bouvet, Oslo) discussed the value of Topic Maps in different business scenarios. There are four different categories of scenarios: complex, chaotic, complicated and simple. In the complex scenarios unknown business patterns emerge where the necessary reaction is unknown. Here Topic Maps applications might help to *probe* different solution paths. In the chaotic scenarios business pattern emerge which needs immediate action, but the necessary reaction is unknown. Here Topic Maps applications might help to directly *act*. In the complicated scenarios business pattern emerge which needs expert diagnosis to apply known expertise to unknown problems. Here Topic Maps applications might help to analyse the emerging challenges. In simple business scenarios best practice will be applied to familiar problems. Here Topic Maps applications might help to *categorize* the field of activities.

14 Topic Maps Marketing Heritage Topic Map

In this presentation¹⁸ Xuân Baldauf (University of Leipzig) claimed to identify a marketing problem of the Topic Maps community. As reaction he proposes to create a Topic Map where the evangelization relationships like "Lutz Maicher evangelized Xuân Baldauf" are documented. Based on the information in such a topic map Baldauf hopes to optimize the community marketing processes.

15 TopiEngine and Other Projects

Rani Pinchuk (Space Application Services, Zaventem) presents¹⁹ several projects. TopiEngine is a C++ Topic Maps engine which was implemented in-house and

¹⁷ <http://www.topicmapslab.de/publications/dynamic-psis-presentation>

¹⁸ <http://www.topicmapslab.de/publications/topic-maps-marketing-heritage-topic-map-presentation>

¹⁹ <http://www.topicmapslab.de/publications/topiengine-and-other-projects-presentation>

was open sourced recently²⁰. It provides persistence using SQLite and implements an API similar to TMAPI 1.0.

The LINDO²¹ project is about Large Scale Distributed Indexation of Multi media Objects. The project targets a portable domain question answering system over Topic Maps. It started in November 2007 and will end in 2010. LINDO is an IWT/ITEA2 activity (ITEA2-06011) which is partly funded by the Flemish government. The SATOPI²² project is about Topic Maps as Enabling Technology for Earth Observation User Service Applications. It targets an application which provides semantic access to Earth Observation mission products over glaciers and glacial lakes in the mountains of the Himalayan region in order to understand better the Glacial Lake Outburst Flood (GLOF) phenomena. This is done by creating a topic map from data about glaciers and glacial lakes, creating a topic map of related Earth Observation mission products and merging the two topic maps to provide an unique access to multi domain data. SATOPI is a co-funded activity with the European Space Agency (ESA contract No. 21520/08/I/OL).

The ULISSE²³ project is about Knowledge Integration and Dissemination for Space Science Experimentation. This project targets the exploitation and valorization of scientific data from previous and future space science experiments on the ISS and other space platforms. It will merge and provide access to scientific and technical data of most scientific disciplines, including Life Sciences, Space Medicine and Exobiology, Biotechnology, Material and Fluid Sciences. The vision related to Topic Maps in this project is to organize, merge and provide unique access to multi-disciplinary data. ULISSE is a 3 years FP7 project, partly funded by the European Union.

16 XTM 1.0 to XTM 2.0 Conversion Issues

Alexander Mikhailian (Space Application Services, Zaventem) has written an XSLT stylesheet for converting from XTM 1.0 to 2.0, and in this context identified what he describes as conversion and interoperability problems. His presentation²⁴ described these problems, and how he had solved them in his converter.

17 Topic Maps to Describe a GUI to be Used to Edit a Topic Map

In this presentation²⁵ Terje Oksum Syversen (Ravn, Oslo) describes the situation in the company. They develop solutions for highly specialised content production

²⁰ The source code is available at: <https://code.launchpad.net/~topiengine>

²¹ <http://www.lindo-itea.eu/index.html>

²² <http://earth.esa.int/rtd/Projects/SATOPI>

²³ <http://www.ulisse-space.eu>

²⁴ <http://www.topicmapslab.de/publications/xtm-10-to-xtm-20-conversion-issues-presentation>

²⁵ <http://www.topicmapslab.de/publications/topic-maps-to-describe-a-gui-to-be-used-to-edit-a-topic-map-presentation>

whereby the content is always stored in topic maps. The user interfaces of the applications are composed by reusable small widgets. Each widget represents occurrences, names, associations, PSIs or topics. The main problem they are confronted with is maintaining many, complex and changing user interfaces. Their solution is creating Topic Maps ontologies for each user interface. Today they use a topic map to describe a GUI to be used to edit a topic map. In future they will use a GUI to edit a topic map to describe a GUI to be used to edit a topic map.