Title:
Report on the GSDI 2009 Workshop "Tools and Experiences in Implementing INSPIRE Data Specifications III: Data Harmonization"
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Working Group:
WP11
References:
http://www.gsdi.org/gsdiconf/gsdi11/workshops.html#wrkshp3.3

Short Description:
Report on the pre-conference workshop "Tools and Experiences in Implementing INSPIRE Data Specifications III: Data Harmonization" hosted by HUMBOLDT at the 11th GSDI World Conference June 15th, 2009, Rotterdam, The Netherlands.
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AGILE, workshop, data harmonisation

History:

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002	S.Scherer	Final	

HUMBOLDT partners have organised a 90 min workshop at the 11th GSDI world conference, which took place on 15th of June, 2009 in Rotterdam Netherlands. The workshop was organised within the INSPIRE track and aimed at demonstrating "Tools and Experiences in Implementing INSPIRE Data Specifications III: Data Harmonization".

An inspiration for this workshop was twofold: on one hand the INSPIRE Directive, which has entered implementation phase and clearly requires tools and working solutions for data harmonisation; the other hand the developments and experiences of HUMBOLDT partners in designing and developing processes and an open source software framework including tools for different steps in the data harmonisation process. The workshop consisted of three parts:

- Short introduction to the workshop and the HUMBOLDT project
- Demonstration of HUMBOLDT Framework components for different steps in the transformation process chain:
    - data modelling (definition of source and target schemas)
    - harmonisation issues and definition of schema mapping
    - execution of schema translation

The workshop was opened by Eva Klien, who presented the HUMBOLDT project, the ultimate goals of the project, the partners and their roles and shortly reported on the last developments. Marian de Vries has further elaborated on the major objectives of HUMBOLDT. She has clearly stated that the HUMBOLDT project aims to overcome barriers in multidisciplinary and cross-border usage of geoinformation and provide common tools and services to support transformation needs. HUMBOLDT has to be seen as the needed support for the activities within INSPIRE and GMES. Marian de Vries has pointed out that HUMBOLDT concentrates on a subset of INSPIRE components but considers also process models their components and their parameters. HUMBOLDT tools focus greatly on data model transformations. To be able to cover the entire harmonisation process a number of functionalities are needed:

- Capturing domain (application-specific) knowledge supporting the definition of the information product (target model, spatial extent, …) to which the processed data needs to be transformed
- Identification and formalization of the transformation between two data models
- Handling of transformation needs as part of the overall processing of an information request and enhancement of the automation of the data harmonisation processes

With respect to the first required functionality, the HUMBOLDT Editor (a UML modeling tool) was presented. The main difference with similar tools is that the HUMBOLDT Editor allows for definition of spatial data types, which is expected to greatly facilitate the work on defining application–specific data models. The HUMBOLDT Editor was demonstrated for modeling of a scenario-specific model (i.e. Protected Areas)

Astrid Fichtinger has shared some experiences with transformation between different models. The examples were selected from one of the 9 scenarios within HUMBOLDT (i.e. ERiskA). This scenario concentrates largely on the harmonization of data during crisis

management in three counties (Austria, Switzerland and Germany). Astrid Fichtinger underlined that many of the identified harmonization operations (although derived from the data sets in one scenario) would be easily recognized in other scenarios. Filtering (conditional statements to filter/extract features), reclassification, renaming classes or attributes, merge/split classes or attributes and so on are only some of the examples she gave.

Thorsten Reitz has concentrated on the handling of transformation need and the overall automation of harmonization processes. He presented the HUMBOLDT Alignment Editor (HALE), which provided means to create automatically executable horizontal mappings, mostly on conceptual data model level and in some aspects on the logical data model level. Most importantly, HALE provides the needed means to ensure the validity of a performed transformation between two data models. Thorsten elaborated on the overall implementation architecture and demonstrated the work of the tool. After that he has shortly presented the HUMBOLDT Conceptual Schema Transformer (still under development), which is supposed to execute the transformations created with HALE. The last tool presented at the workshop was the HUMBOLDT edge matching service. The stage of implementation of several other services such as Coordination Transformation service, Language Transformation Service, Multiple Representation Merging Service and Quality Measurement in Transformation was briefly discussed as well.

The presentations of the four HUMBOLDT members were followed with great interest. In the remaining 30 minutes many questions about the functionalities of the developed tools, possibilities to download and test, status of the implementation, etc were asked. Most of the participants expressed interest in the tools and clearly stated that they would like to download the available tool and test them. The general questions whether these tools are needed and would be useful for the work of the attendees was answered positively, which has proven that the HUMBOLDT research and developments are following the right track.

During the discussion the number of attendees increased almost double. Many of the attendees continued the discussion with the present HUMBOLDT members even after the official closing of the workshop.