MuseNet: An Open Source Distributed Information Infrastructure for Museums based on XMPP and Conceptual Searches

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Sweden still lacks a usable distributed information infrastructure available for the museums community. The community is very fragmented with shared data organised mainly around the different brands of museum systems and even in specific systems there is no or very poor interoperability between different implementations. The Swedish KMM-project addresses these problems by setting up an long term R&D environment and developing a state of the art test bed and a Open Source distributed information infrastructure for the participating regional museums and regions (KMM 2007).

The situation is in many ways the same on the Nordic level. Even with successful initiatives and projects up and running nationally, a backbone for solving these issues in an cross-border, Nordic, setting is still missing. To address this, partners from five Nordic countries have created a "Nordic Network" in order to establish the necessary Roadmaps for building a Nordic infrastructure for inter-linking Cultural Heritage information (Nordic Network 2008).

One possible part of a solution might be the "MuseNet" (currently "Samsök", http://samsok.museum24.se) originating from the KMM-project. MuseNet is based on the XMPP-protocol (http://www.xmpp.org/) and is built on top of existing databases, linked trough "rdb-nodes" (Remote DataBase-nodes) and implemented on top of existing systems. The rdb-nodes will map local data structures into standards as CIDOC CRM, CIDOC CRM Core and Museumdat and link all nodes into a distributed P2P-like "data cloud". Dedicated nodes are introduced into the cloud containing URI/Persistent-Id based meta data on persons, locations, collections and taxonomies.

Starting from March 2008 the implementation of MuseNet in the museums community is based on a long term Roadmap with new releases every year. Samsök 1.0 for setting up the network and basic functionality. Samsök 2.0 mainly for distributing URI:s/Persistent-id:s to the participating nodes in order to create a cloud of conceptualized meta data by introducing a set of plug-in-modules and tools. MuseNet 1.0 in 2010 will be a summary and adaption based on experiences and results from the first versions and added new functionality.

MuseNet 1.0 have 3 main goals: 1) implementing a robust, scalable and cost-efficient information infrastructure based on conceptualized meta data, 2) use this infrastructure as an controlled environment for step-by-step transformation of databases with "old" data structures into newer event-

based standards like the CIDOC CRM and 3) using this environment for collaborative development of tools and services for eLearning, content production, retrieval, documentation, access and research etc.

MuseNet is work in progress and this paper will:

- present the Roadmap used for implementing Samsök/MuseNet in 10 regions in Sweden from 2009.
- address problems in finding scaleable and distributed solutions for the anticipated "term anarchy". MuseNet will need distributed long term, self organizing, solutions and tools for further work on the conceptual level.
- present test-results and early evaluation from the first tests of Samsök/MuseNet in Sweden and in the Nordic Network from setting up a demo site with +20 databases from the Nordic countries.