SEMANTIC WEB FOR CULTURAL EXCHANGE

Application of semantic technologies can also be of great benefit in seemingly less strict areas, but which in actuality demand as much precision and clearness in data presentation as others. One such area is the broadly understood field of cultural exchange. Be it archeology, history, art or entertainment, it encompasses countless numbers of entities in relations to each other, and the challenge of organizing this vast amount of information stands before any knowledge-driven initiative or organization.

CIDOC CRM

The CIDOC Conceptual Reference Model is a set of definitions and a formal structure for describing and sharing of concepts used in cultural heritage documentation. The goal of the enterprise is to facilitate and promote cultural exchange by means of a common semantic framework which can include any piece of cultural information.

*"(..) it can provide the "**semantic glue**" needed to mediate between different sources of cultural heritage information, such as that published by **museums, libraries and archives**."*

By defining objects of cultural heritage as entities within the semantic network, it enables information exchange between a variety of different sources and information repositories, regardless of the systems employed. Its ambition is **to transform information sources that are scattered and far apart into a coherent global structure.**

CIDOC CRM has been an internationally recognized standard since 2006 (ISO: 21127:2006) and is the most popular ontology in the area of cultural heritage.

MuseumFinland

A practical example of successful implementation of semantic technologies in the area of cultural heritage can be found in the case of MuseumFinland. It is a portal that gathers information about collections present in Finnish museums in form of a universal ontology.

ONTOLOGY	CONTENT	CLASSES	INDIVIDUALS
Artifacts	Classes for tangible collection objects	3227	0
Materials	Substances that the artifacts are made of	364	0
Actors	Persons, companies, organizations, and other agents	26	1715
Locations	Continents, countries, cities, villages, farms etc.	33	864
Times	Eras, centuries, etc. as time intervals	57	0
Events	Situations, events, and processes in the society	992	0
Collections	Museum collections included in the system	22	24

By semantic Web techniques, it is possible to make collections semantically interoperable and provide museum visitors with intelligent content-based search and browsing services to the global collection base. **By using the MuseumFinland approach, the museums with their semantically rich and interrelated collection content can create consolidated semantic collection portals together on the Web**.

CHIP (CULTURAL HERITAGE INFORMATION PRESENTATION)

The CHIP (Cultural Heritage Information Presentation) is a project funded by the Dutch Science Foundation whose goal is to explore and demonstrate how Semantic Web technologies can be used in museums to enhance the actual visitor experience. It is currently deployed in the Rijksmuseum Amsterdam.

The goal of the CHIP project is to demonstrate (i) how novel Semantic Web technologies can be deployed to enrich the Rijksmuseum vocabularies and providing semantic browsing, searching and semantic recommendations; and (ii) how personalization and user modeling techniques can be explored to enhance users' experiences both on the museum Web site and in the physical museum space.

The project currently consists of 3 forms:

1. Artwork Recommender – an artwork recommendation engine based on semantically described data which builds a user preference profile on basis of his/her choices
2. Tour wizard – a tool used for generation of personalized virtual museum tours
3. Mobile tour – a tool for PDAs used for mapping virtual tools onto actual physical spaces of the museum and providing guidance to the visitor

RESOURCES

CHIP Project official website http://chip-project.org/

Finnish Museums on the Semantic Web: The user's Perspective on MuseumFinland -
http://www.museumsandtheweb.com/mw2004/papers/hyvonen/hyvonen.html

MuseumFinland official website http://www.museosuomi.fi/

CIDOC CRM official website http://www.cidoc-crm.org/index.html