METADATA VISUALISATION OF CULTURAL HERITAGE INFORMATION WITHIN A COLLABORATIVE ENVIRONMENT

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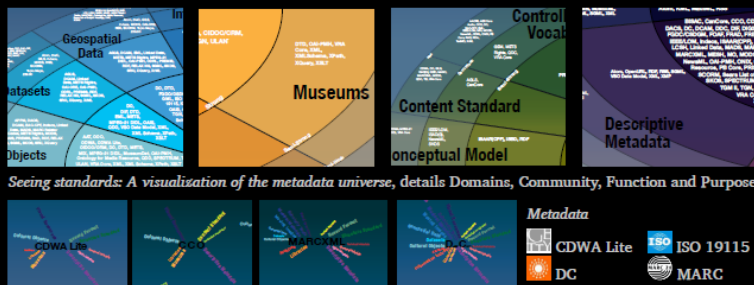15 Dineen Drive, PO Box 4400, Fredericton, New Brunswick, Canada, monicaw@unb.ca

Abstract: *Cultural content on the Web is available in various domains (cultural objects, datasets, geospatial data, moving images, scholarly texts and visual resources), concerns various topics, is written in different languages, targeted to both laymen and experts, and provided by different communities (libraries, archives museums and information industry) and individuals (Figure 1). The integration of information technologies and cultural heritage content on the Web is expected to have an impact on everyday life from the point of view of institutions, communities and individuals. In particular, collaborative environment scan recreate 3D navigable worlds that can offer new insights into our cultural heritage (Chan 2007). However, the main barrier is to find and relate cultural heritage information by end-users of cultural contents, as well as by organisations and communities managing and producing them. In this paper, we explore several visualisation techniques for supporting cultural interfaces, where the role of metadata is essential for supporting the search and communication among end-users (Figure 2). A conceptual framework was developed to integrate the data, purpose, technology, impact, and form components of a collaborative environment, Our preliminary results show that collaborative environments can help with cultural heritage information sharing and communication tasks because of the way in which they provide a visual context to end-users. They can be regarded as distributed virtual reality systems that offer graphically realised, potentially infinite, digital information landscapes. Moreover, collaborative environments also provide a new way of interaction between an end-user and a cultural heritage data set. Finally, the visualisation of metadata of a dataset plays an important role in helping end-users in their search for heritage contents on the Web.*

Metadata Visualization of Heritage Information within a Collaborative Environment
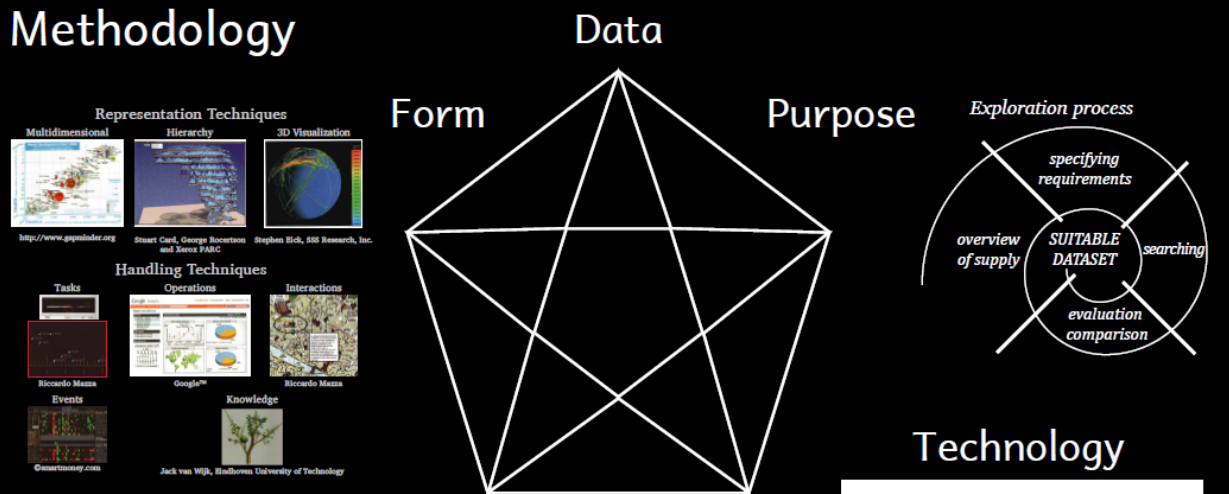
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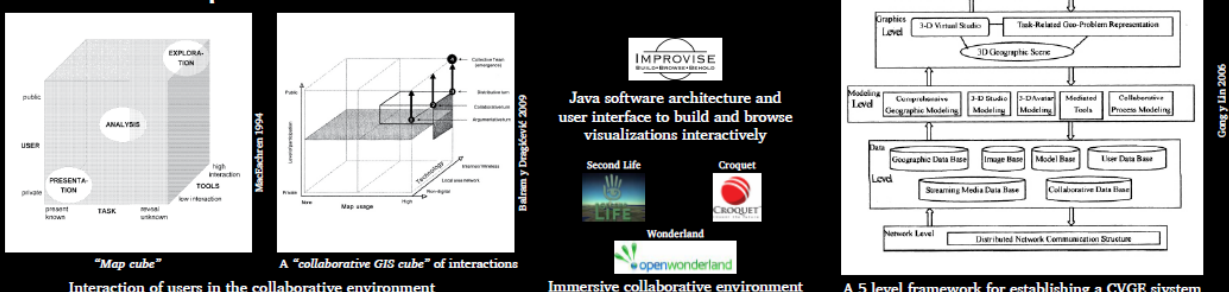e-mail: ma.respaldiza@upm.es

Motivation

Cultural content on the Web is available in various domains (cultural objects, datasets, geospatial data, moving images, scholarly texts and visual resources), concerns various topics, is written in different languages, targeted to both laymen and experts, and provided by different communities (libraries, archives museums and information industry) and individuals. The integration of information technologies and cultural heritage content on the Web is expected to have an impact on everyday life from the point of view of institutions, communities and individuals. In particular, collaborative environments can recreate 3D navigable worlds that can offer new insights into our cultural heritage. (Chan 2007). However, the main barrier is to find and relate cultural heritage information by end-users of cultural contents, as well as by organization and communities managing and producing them.

Seeing standards: A visualization of the metadata universe, details Domains, Community, Function and Purpose

Metadata
CDWA Lite
DC
ISO 19115
MARC

Methodology

Data
Form
Purpose

Representation Techniques

Multidimensional — http://www.gapminder.org
Hierarchy — Stuart Card, George Robertson and Xerox PARC
3D Visualization — Stephen Eick, SSS Research, Inc.

Handling Techniques

Tasks — Riccardo Mazza
Operations — Google™
Interactions — Riccardo Mazza
Events — ©smartmoney.com
Knowledge — Jack van Wijk, Eindhoven University of Technology

Fairbairn et al. 2001

Exploration process

specifying requirements
overview of supply
SUITABLE DATASET
searching
evaluation comparison

Ahonen-Rainio 2006

Technology

A 5 level framework for establishing a CVGE siystem

Gong y Lin 2006

Impact

MacEichren 1994

"Map cube"
Interaction of users in the collaborative environment

Balram y Dragicevic 2009

A *"collaborative GIS cube"* of interactions

IMPROVISE BUILD·BROWSE·BEHOLD

Java software architecture and user interface to build and browse visualizations interactively

Second Life
Croquet
Wonderland
openwonderland

Immersive collaborative environment

Objectives

1. Review the suitability of different forms of representation applied to heritage information to different user interaction cases in a collaborative environments, and examine the impact on each of the cases.
2. Forms of representation derived from the semantic (spatial, temporal and thematic) of the metadata elements and evaluation purposes.

Conclusions

Our first results indicate that collaborative environments can be a new way of improving user involvement in sharing heritage information by proving a new way of interaction between the user and a heritage information. The collaborative environment needs its own search interface and tailor the visualization of metadata of an information accordingly to the collaboration of the users.
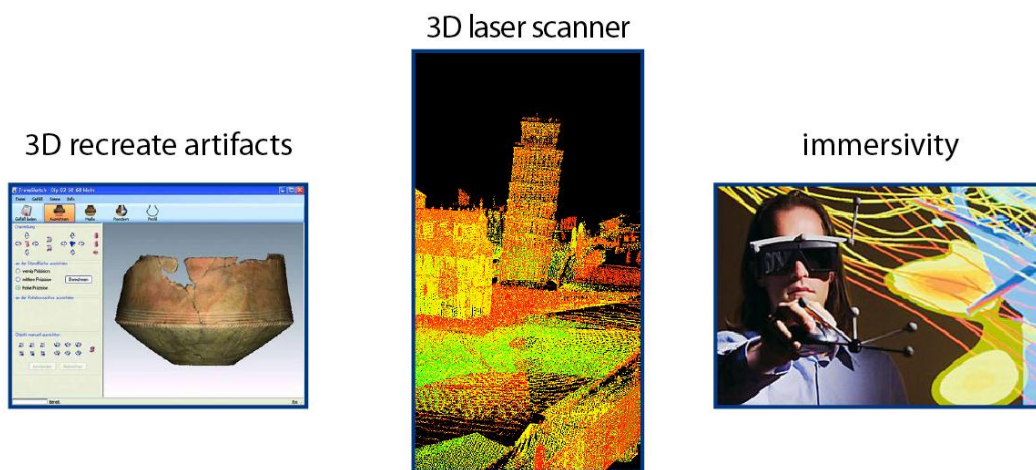
España Virtual
MINISTERIO DE FOMENTO
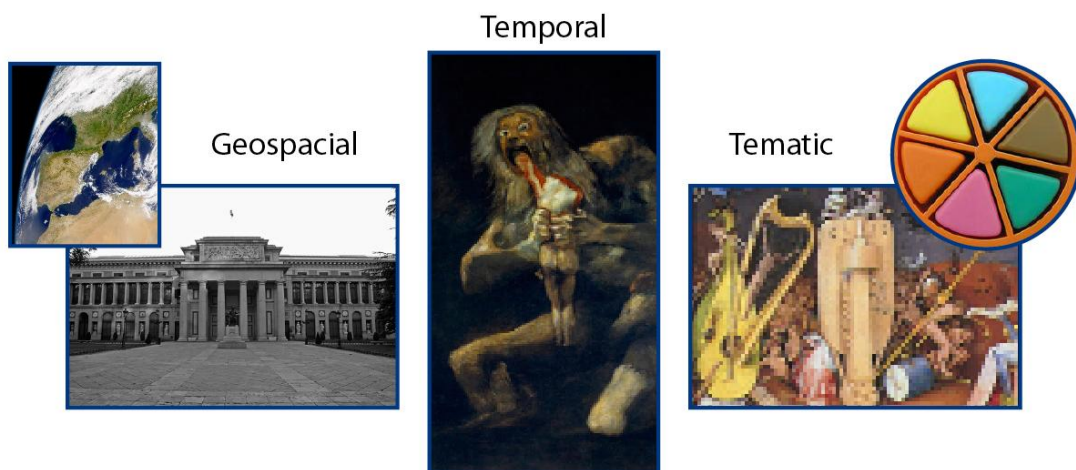
Figure 1: Domain cultural content

Figure 2: Data format of cultural contents

References:

Chan, M. J. (2007, 1713 GMT, May 8). Lost worlds become virtual heritage. Science and Space. Retrieved 10 March, 2011, from http://edition.cnn.com/2007/TECH/science/05/08/Virtual_Heritage/index.html