





E-Dvara design and pragmatics Linda Borean, Paolo Coppola and Alessia Degano

University of Udine linda.borean@dstbc.uniud.it, coppola@uniud.it, degano@dimi.uniud.it



Cultural dissemination

Make contents available: digitalize

nowadays easy and cheap (scanners, digital cameras...)

ø digital contents can be easily transmitted and shared



Make contents effectively usable:

no information overload

add semantics to data

🔊 web

ø overcome bounds of time, space



E-Content (an example)

 Goal: disseminate culture and make artworks more effectively utilizable

Is digitization sufficient? No



ECOPE Cross Cultural Programme

E-Content (an example)



'This sculpture represents Lord Ardhanarishwara. It dates 8th C.A.D. and it is located in Alampur (A.P.).'

- Still not sufficient (for example you cannot search all items made in a specific period of time)
- It is necessary to add SEMANTICS to the data
- Metadata



E-Content (an example)

METADATA



Title: *Ardhanarishwara* Period: 8th c.a.d. Location: *Alampur*

PICTURE

SML representation

<title>ardhanarishwara</title> <period>8th c.a.d.</period> <location>Alampur</location>

This type of e-content representation allows a flexible

storing in a digital archive

showing on WWW and searching





Problem analysis



Problem analysisDesigning the data structure



Problem analysis

- Designing the data structure
- Designing a specific solution:
 - Specific data set
 - Specific data base architecture
 - Specific procedures and interfaces for the data entry
 - Specific interfaces for the utilization of the contents



Pros & cons of the traditional approach Pros:

 Effective personalization of interfaces for the entry and utilization of contents

Ons:

Difficult application of the solution to archives of materials of different nature

Difficult integration with other archives with different metadata sets

8



Our approach

Semployment of an online digital archive

- To store various types of materials relating to different types of cultural heritages
- To allow an effective utilization (browsing, searching, visiting a virtual museum,...) of contents independently of user location

To ensure compatibility and allow integration with other archives

9



A web-oriented platform for cultural dissemination

- Quick: in a couple of clicks it is possible to define digital contents
- For a large class of materials (texts, photos, videos...)
- Sector Easy to use: no need of technicians
- Accessible and multi-user: multiple user around the world can simultaneously contribute to add contents
- Section Extensible and customizable
- Open to international standards



Functional requirements

Storage



- Flexibility and personalization of the storing process
- simplicity and effectiveness of
 - Procedure of the definition of the metadata structure
 - Procedure of data entry
- Personalization of interfaces of data entry and contents utilization
- Open to standards and possibility of integration with other archives

Search



- Search effectiveness: (personalized search forms)
- A single platform allows transversal types of searching across different archives

Otilization



- ø Web Portals, Virtual museum, hands on museum,...
- Increase the knowledge and cultural awareness particularly of the youngsters
- Effective utilization of contents by final user



Technological choices

Storage:

- SML schema or DTD to define data structures
- ML for data storage

Search:

XML and XSLT to produce automatically the search formsUtilization:

- SML and XSLT
 - Web interfaces
 - Flash interfaces
 - 3D interfaces





Main idea: separate contents from presentation



 Main idea: separate contents from presentation

⊘ XML:

Ø Define data structure

Represent data



 Main idea: separate contents from presentation

ML:

Define data structure

Represent data

SLT:

generate personalized interface to show and utilize data





- SML (eXtensible Markup Language) is now the most powerful and used tool for data description.
- Allows hierarchical data structure definition: digital information could be rich, detailed and precise
- Easy data interchange between Institution Archives without complex conversion procedures
- Operating systems independence, high data portability
- Availability of open source software and tools to develop xml-driven applications
- International Standard are defined using DTD or XML Schemas

XSLT

- SSLT is a powerful transformation language
- Osing XSLT is possible:
 - ø to transform XML to obtain xHTML, WML, Pdf, etc...
 - to view XML data in different ways using different devices
 - to obtain different and personalized interfaces to access to the data or add other contents to the archive











4. + 39 0432 556311 Fax. + 39 0432 50 E-CONTENT	S PLATFO	RM 🍇	2	_ ک	🋞 🏦 III X 🧃							
ende publishing. Projects manage	mest	~	-		HELP UNTUD							
SATE A NEW PROJECT	PROJECT: Birls Archaeologi Conde list	cal & Cultural Research Institute	Art Collec	tions								
VAIKED SEARCH ADMINISTRATION	Curus not											
ATE A NEW CARD	Card name modifica Card name	Description	Validity	Publicatio	on Actions							
	10:44 Gallery of Moder Art	 contemporary paintings and sculptures belonging to the Institute's Nimela Brila Gallery of Nodes Art 		P	WOOPY PROPERTIES CLONE REWOVE							
	27-01 005 Archaeological 12:17 Huseum	Ing and cataloguing cards of the sulptures and bronzes belonging to the Enstitute's Archaeological Museum.	۲	P	MODIFI PROFERTIES CLONE REMOVE	mai	nage	r int	erfac	e		
			Fio	ld c	aco fieldo							
			FIC	iu c	base helus				SA	WE THE MO	DIFICATIONS	NEW FIELDS
							5000 m	0%	90%	Cessort		
			Ord	er	Name	Type Composite element	چې ۲	1 200	~	~	Actions	
			•	т	<u>I HOL</u>	<u>composite ciemene</u>			M		PROPERTIES	REMOVE
			♦	1	<u>OBJECT</u>	<u>Composite element</u>	Π	Π		Π	PROPERTIES	REMOVE
			♦	1	TITLE	Small text	J	L			PROPERTIES	REMOVE
			¥	1	<u>CREATION</u>	<u>Composite element</u>	Π	Γ		Π	PROPERTIES	REMOVE
			¥	1	<u>SUBJECT</u>	Composite element	Π			Π	PROPERTIES	REMOVE
			¥	1	MATERIAL AND TECHNIQUE	Composite element	Γ				PROPERTIES	REMOVE
			¥	1	<u>MEASUREMENTS</u>	Composite element	Γ		N		PROPERTIES	REMOVE
			•	1	CONDITION	Composite element	Π	Π		Π	PROPERTIES	REMOVE
			•	1	LOCATION	Composite element	Π	Π		Π	PROPERTIES	REMOVE
			♥	↑	<u>RECORDER</u>	<u>Composite element</u>	Π					



Field content: CREATION Go back to the base fields SAVE THE MODIFICATIONS NEW FIELDS manager interface Sectional Hecesort 1121000 19 00 00 Actions Order Name Type Creator Keywords V Γ Г L 4 0 C PROPERTIES REMOVE Period Small text Π L 0 PROPERTIES REMOVE <u>Dynasty</u> Vocabulary (5) Г Г L Field content: CREATION Provenance Small text J Creator Small text Notes ☑ L SEAKS HABLE default unknown value Period SEARCHABLE Dynasty SEARCHABLE Provenance entries Chalukyan Gandhara SEARCHABLE list Kakatiya Rashtrakuta Vijayanagara Notes SEARCHABLE publisher interface 23



ECONOMIC Cross Citural Programme

Field	conte	nt: ME	ASUREMENTS				SAVE	<u>Go bac</u> THE MODIFICA	TIONS NEW FIELDS	manager
Onden			Tune	eddoole	90 90	190 90	Helesson	Action of		interface
↓ ↑	l	Height	Decimal number	য			ম		PEACVE	
* *		Widht	Decimal number	v		Γ	V			
• •	I	Depth	Decimal number	ব				PROPERTIES		
¥ ↑	l	Jnit 🤇	Keywords	ব		Γ	N	PROPERTIES		
¥ ↑	l	Votes	Small text	2						
				interfac	e ⊻ ₩	SEARCHAB	LE			
				defaul		SEARCHAB	LE			
				value	N.	DTES SEARCHAB	LE			











Università degli Studi di Udine, via Palladio 8, Palazzo Florio 33100 Udine Tel. +39 0432 556111 Fax. +39 0432 507715

E-CONTENTS PLATFORM

Records publishing Projects management

CARDS LIST

CREATE A NEW CARD

PROJECT: Tessitori and India

ADVANCED SEARCH ADMINISTRATION

List of theadvanced search forms

Sequence of steps STEPS DESCRIPTION List of the advanced search forms 1 current 2 Creation of an advanced search form go to this step 3 Modification of an advanced search form Creation of an advanced search field 4 -5 Modification of an advanced search field It's possible to request the enabling or the disabling of a search form, its removal or its modification. Form name: DEFAULT P 1 ENABLE MODIFY REMOVE Title [Title (T&I Citation Style) Shelfmark (T&I Citation Style) Subject (T&I Citation Style) Places (T&I Citation Style) Date (T&I Citation Style)] MODIFY MODIFY Photographer [Photographer (T&I Citation Style)] MODIFY Collection [Collection (T&I Citation Style) Place (T&I Citation Style)] MODIFY Places [Places (T&I Citation Style)] DEFINE A NEW search FIELD VALID

30



Searching features



Searching features

The system automatically generates a search form from the data structure definition



Searching features

The system automatically generates a search form from the data structure definition

It is possible to define personalized forms grouping set of fields that will be searched in OR.



E-Dvara



Final user interface

E-Dvara E-Content Platform for Heritage and Science

You are in: <u>Home</u>

Cultural Dissemination

Cross

EU-India

for

D



What is an E-Contents Platform?

We analyze how to address portability of existing cultural dissemination assets such as Science and Heritage museums on a digital platform. In particular, we address the problem of e-contents for Science and Heritage popularization, i.e. of making accesible on the net the kind of experiences which can raise the awareness of the youngsters and the laymen in these areas. Special emphasis goes also in the direction of experimenting with existing solutions for enhancing digitally the fruition of cultural artifacts.

This platform is an archive of cultural and scientific contents in digital format. In particular it includes some samples from the Archeological Museum Hyderabad, Modern collection and more.

Access to archives

 L'archivio dell'indianista Luigi Pio Tessitori (1887-1919)

L'archivio comprende il materiale fotografico e i documenti inediti dell'indianista Luigi Pio Tessitori conservati oggi a Reana del Rojale nella residenza del nipote dr. Guido Peano.

Indian Contribution to the Formation of Modern Science - A Digital Library

The project consists of a database with an annotated bibliography and a digital archive with transcriptions and images of relevant manuscripts from European and Indian libraries.

🔶 Tessitori and India

The main part of the project consists of materials from the archives of the Italian indologist Luigi Pio Tessitori (1887-1919) conserved at the "Vincenzo Joppi" Civic Library in Udine and at the residence of the Tessitori's nephew, Dr. Guido Peano, at Reana del Rojale.



Virtual museum

Birla Archeological Museum

It is possible to access to the collections of the Birla Archaeological Museum and find several information about each item.



Kurnool Museum



asis

News

2 September 2005 Pune - Workshop on "IT for Industry, Education and Research" promoted by the University of Udine in collaboration with the Centre for Development of Advanced Computing (CDAC)

29-30 August 2005

Hyderabad - Workshop on "IT for Preservation of Cultural Heritage" promoted by the University of Udine in collaboration with the B.M. Birla Science Centre

🗐 1 July 2005

A new 3D virtual museum including the collections of the Birla Modern Art Gallery is under construction.

Link

- ⇒ University of Udine
- LIDA University of Udine
- ICT for EU-India Cross Cultural Dissemination



How to enter the records -





Download image

How to enter the records - 2

> Search module Keyword search



View search results

ICT for EU-India Cross Cultural Dissemination









LIDA Digital Archive



http://archiviazione.infofactory.it/lida

LABORATORIO INFORMATICO PER LA DOCUMENTAZIONE STORICO ARTISTICA UNIVERSITÀ DEGLI STUDI DI UDINE





Progetti LIDA

I progetti del laboratorio LIDA riguardano la catalogazione informatica di fonti e materiali relativi ai beni culturali, attraverso l'utilizzo di metalinguaggi di tipo descrittivo per la comunicazione e la restituzione dei dati archivistici (XML, XHTML) e visivi.

Una riflessione particolare è dedicata alle problematiche connesse alla gestione, presentazione e consultazione dei contenuti pubblicati.

News

3 - 5 giugno 2005 Provincia di Roma - Città del Vaticano, Roma (Italy) 9º Colloquio Internazionale "La Gestione del Patrimonio Culturale" and Herity International Conference - Preparatory Meeting.

27 - 29 giugno 2005 Università Statale di Milano (Italy) conferenza internazionale Open Culture: accessing and sharing Knowledge, Scholarly Production and Education in the Digital Age

7 - 11 giugno 2005 Conferenza internazionale - Denver (USA) The Joint Conference on Digital Libraries: Cyberinfrastructure for Research and Education (JDCL 2005).

Link

- Università di Udine
- LIDA Laboratorio Informatico per la Documentazione Storico Artistica

Final user interface



(1925 - 1935)

1886)

Arte Moderna Italiana Scheiwiller

en 1972 int b

Ricostruzione virtuale di un patrimonio artistico disperso attraverso l'indicizzazione degli

inventari di collezioni private veneziane, redatti da Pietro Edwards tra fine Settecento e inizio Ottocento.





Repertorio iconografico della collana "Arte Moderna Italiana" di Giovanni Scheiwiller

Schedatura e indicizzazione informatica delle prime campagne fotografiche del patrimonio monumentale italiano (1878 - 1886)

Collezioni veneziane nell'età di Pietro Edwards (secoli XVIII-XIX)

Venetian art collections in the age of Pietro Edwards (18th-19th centuries)

List of records





Collezioni veneziane nell'età di Pietro Edwards (secoli XVIII-XIX)

Venetian art collections in the age of Pietro Edwards (18th-19th centuries)

Record based on A digital card, which describe the inventory of a collection and contains information about the owner



44

Collezioni veneziane nell'età di Pietro Edwards (XVIII-XIX centuries)

Venetian art collections in the age of Pietro Edwards (18th-19th centuries)

Record based on B digital card, which describes every work of art (painting, drawing, sculpture) included in a specific inventory







ECONOMIC Cross Cultural Programme

Virtual Museum



in: Home > <u>Archivi</u> > <u>Collectori vaneziane nell'vik di Pietro Eduarda documenti</u>	Search
ollezioni veneziane nell'età di Pietro Edwards	Inserisci alcune parole chiave da cercare nell'archivio corrente.
sani	60
\$10.555)	
Lake suscied in formation	
per la Davanevatatione Statistica (1224)	et etching a
Numero Di Inventario: 8	Pisari in campo Santo Status
Nazione Dei Documento: Italia	COLUMN AND
Citta Dei Decomento Venezia	
DATA:	
Commenti Sulla Data: L'inventario non è datato ma si può collocarne la stesura nel 1809, anno in	
consumerour recences i muditico di sumere la concounte risari di santo stelano.	
PROPRIETARIO:	
Cognomer Pisani	
Nome: Francesco	
RESIDENZA	
Citta': Venezia	
Ubicazione: parrocchia di Santo Stefano	
Bibliografia:	
R. Gallo, Una famiglia patrizia. I Pisani ed i Palazzi di Santo Stefano e di Strà, in "Archivio Veneto",	
XXXIV-XXXV, 1944, pp. 65-228.	
Iconografia:	
er michieft b	
¥ 於爾茲語	
	\sim
Prospetto di Palazzo Pisani in campo Santo Stefano	
PROPRIETARIO-	
Conome: Pisani	
Nome: Almorò Francesco	
RESIDENZA:	
Little : venezia	
ubicazione: parrocchia di Santo Stefano	
Bibliografia:	





DA LABORATORIO INFORMATICO PER LA DOCUMENTAZIONE STORICO ARTISTICA UNIVERSITA DEGLI STUDI DI UDINE



User interaction

- Hands on museum
 - ø virtual experiments (attachment of flash file)
 - Physics, Computer science
- Contributes of visitors
 - Save comments and info provided by users about items exposed in virtual museum
 - Other visitors can read comments and write other opinions or provide other info
 - Rating quality/contents of museum



3D VRML object



3D VRML object







3D Virtual Museum





Innovative elements

- The generalized approach allows to solve the problem of storing materials of different nature
- The platform can be used in a personalized way according to the user needs
- Open to international standards of data definition
- High interactivity with users



Extendibility

Data set definition
Interface for the utilization
Searching capabilities
Import/Export of data
Interoperability with other archives

Questions?



This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of the University of Udine and can in no way be taken to reflect the views of the European Union