



E-Dvara: Building and Maintaining a Digital Platform for Artistic Collections

Paolo Coppola, Alessia Degano, S.R.C. Prasad and Roberto Ranon
University of Udine
coppola@uniud.it, degano@dimi.uniud.it, prasad@dimi.uniud.it, ranon@dimi.uniud.it

2nd ANNUAL CONFERENCE
ICT for EU-India Cross-Cultural Dissemination
November, 14th 2005
Valencia, Spain

ICT for Cultural dissemination

- digital libraries have a fundamental role for (cross) cultural dissemination through ICT technologies
- dissemination of cultural heritage through digital libraries
 - **digitize + make effectively available**
 - ... a **massive amount of different kinds of contents**

Example



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



PICTURE

Title: *Ardhanarishwara*

Period: 8th c.a.d.

Location: *Alampur*

`<title>ardhanarishwara</title>`

`<period>8th c.a.d.</period>`

`<location>Alampur</location>`

ICT for EU-India Cross Cultural Dissemination

E-Dvara

E-Content Platform for Heritage and Science

You are in: [Home](#) > [Archives](#) > [Birla Archaeological & Cultural Research Institute Art Collections](#)
resources

Birla Archaeological & Cultural Research Institute Art Collections
sculpture

Search
In order to search digital e-contents in this archive, insert some keywords.

IMAGE:
Save:

Yakshi, X century, Birla Archaeological and Cultural Research Institute, Hyderabad

OBJECT:
Classification: sculpture

TITLE: Yakshi

CREATION:
Creator: unknown
Period: X century
Dynasty: Kakatiya
Provenance: Padampet, Karimnagar District - Andhra Pradesh

SUBJECT:
Identification: nude Yakshi in tribhanga standing posture
Description:
Yakshas and Yakshis, along with Gandharvas and others, are demigods. Yakshi is represented here with heavy breast and thighs, slender waist and both hands raised over her head; she wears padukas and she is adorned with kundikas, hankanas, hahas and mangalas. Two human figures are also carved at the base of the back panel one on either side.

MATERIAL AND TECHNIQUE:
Material: granite
Technique: sculpting

MEASUREMENTS:
Height: 150.0
Width: 57.0
Units: cm

CONDITION:
Description: fair
Details:
The top portion above the figure's head is missing.

LOCATION:
Repository Number: S.244

RECORDER:
Date: 21/07/2005

Description:
Yakshi, X century,
Birla Archaeological
and Cultural
Research Institute,
Hyderabad

Designing a digital archive

The traditional approach

- ① Problem **analysis**
- ① Designing the **data structure**
- ① Designing a **specific** solution:
 - ① Specific data set
 - ① Specific data base architecture
 - ① Specific procedures and interfaces for the data entry
 - ① Specific interfaces for the utilization of the contents

Pros & cons of the traditional approach

- Interfaces for the entry and utilization of contents are personalized to tasks and kinds of contents
- Difficult application of the solution to archives of materials of different nature
- Difficult integration and pooling with other archives with different metadata sets

The E-Dvara approach

- An **online** digital archive able to:
 - **store various types** of materials relating to **different types** of cultural heritages
 - allow an **different usages** (browsing, searching, visiting a virtual museum,..) of contents
 - ensure **compatibility** and allow **integration and pooling** with other archives

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...)
- **Easy to use**: no need of technicians
- **Extensible** and **customizable**
- **Open** to international **standards**

Functional requirements

● Acquisition & Storage



researcher

- 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

👁 Utilization



final users

- 👁 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:
 - XML schema or DTD to define data structures
 - XML for data storage
- Search:
 - XML and XSLT to produce automatically the search forms
- Utilization:
 - XML and XSLT
 - Web interfaces
 - Flash interfaces
 - 3D interfaces

Why XML & XSLT?

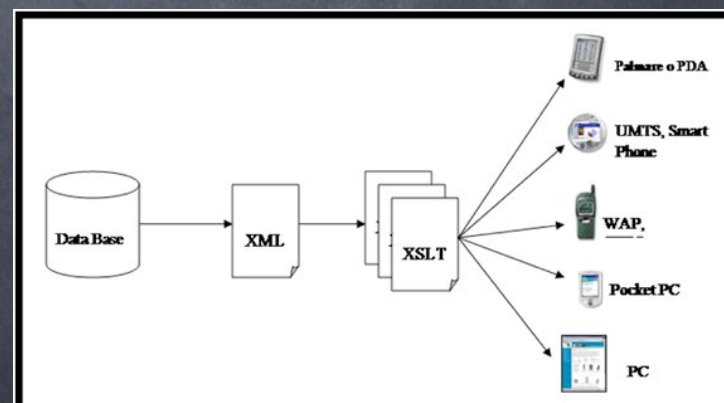
- XML:
 - Define data structure
 - Represent data
- XSLT:
 - generate personalized interfaces to acquire, display and utilize data

XML

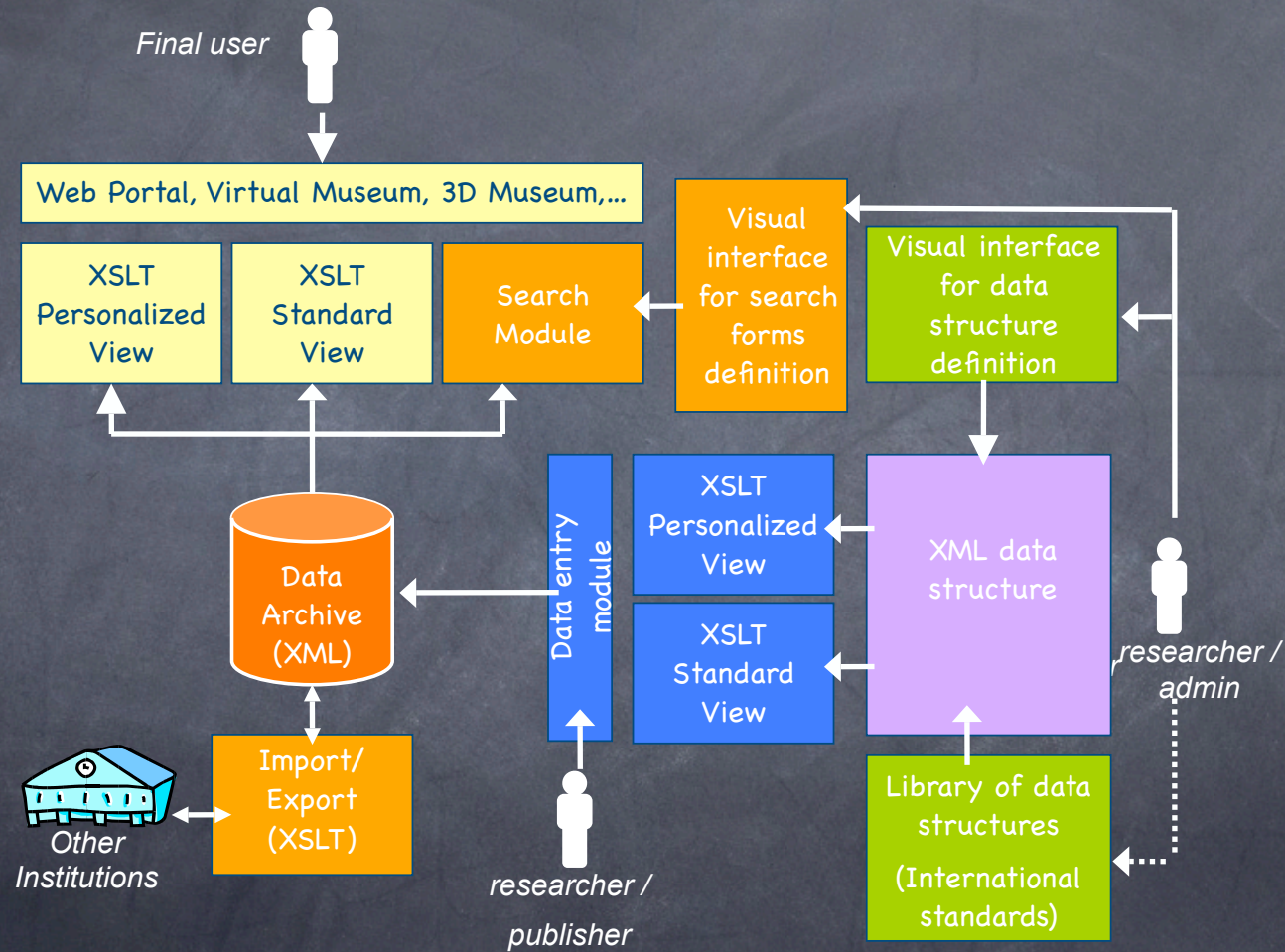
- XML (eXtensible Markup Language) is a powerful and largely used tool for data description.
- Easy **data interchange** between Institution Archives without complex **conversion procedures**
- Operating systems **independence**, high data **portability**
- Availability of open source **software** and **tools** to develop xml-driven applications
- **International Standard** are defined using DTD or XML Schemas

XSLT

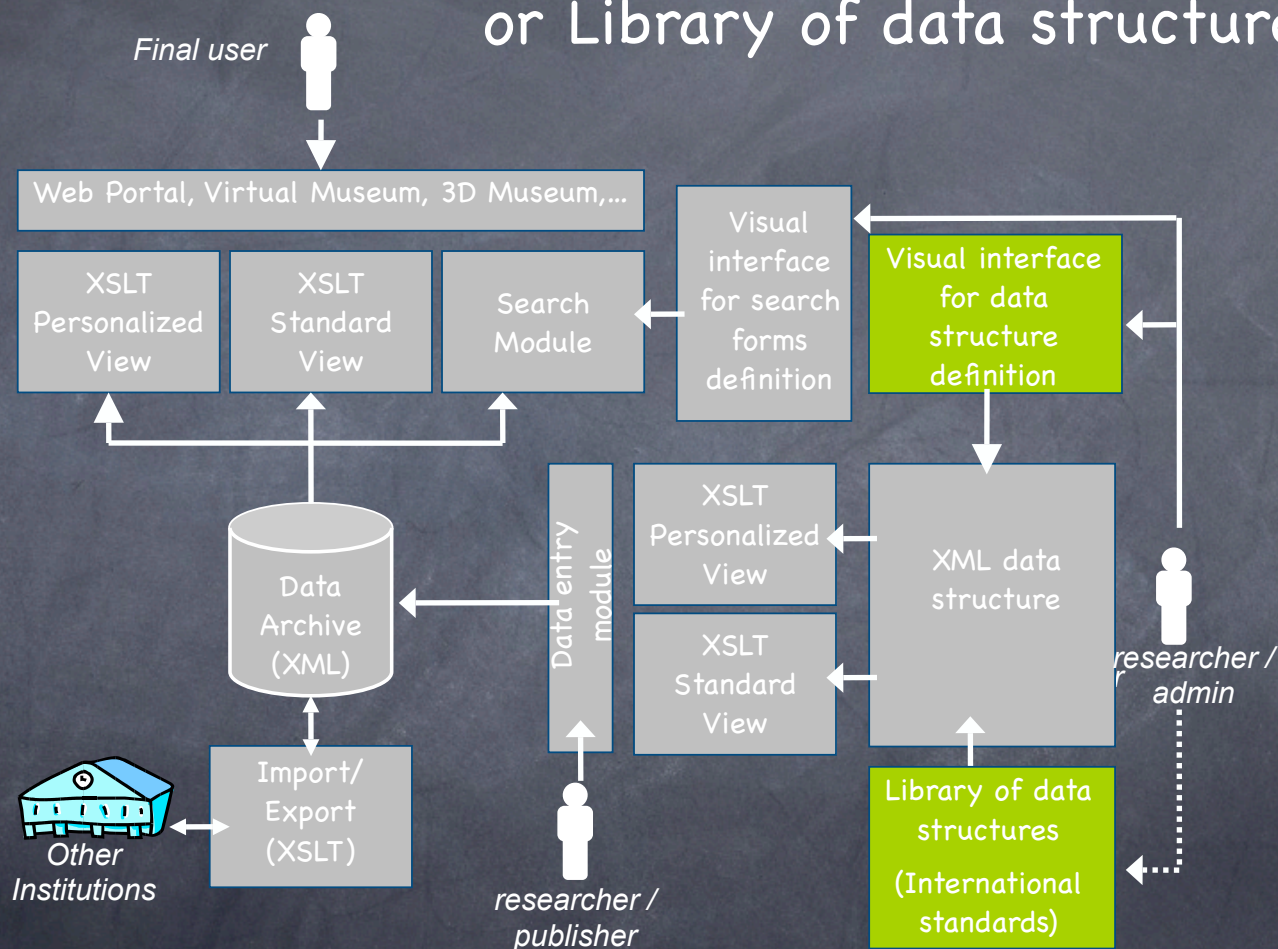
- XSLT is a powerful **transformation** language
- Using XSLT is possible:
 - to **transform** XML to obtain XHTML, WML, Pdf, etc...
 - e.g., to **view** XML data in different ways using different **devices**
- to obtain different and personalized **interfaces** to access to the data or add other contents to the archive



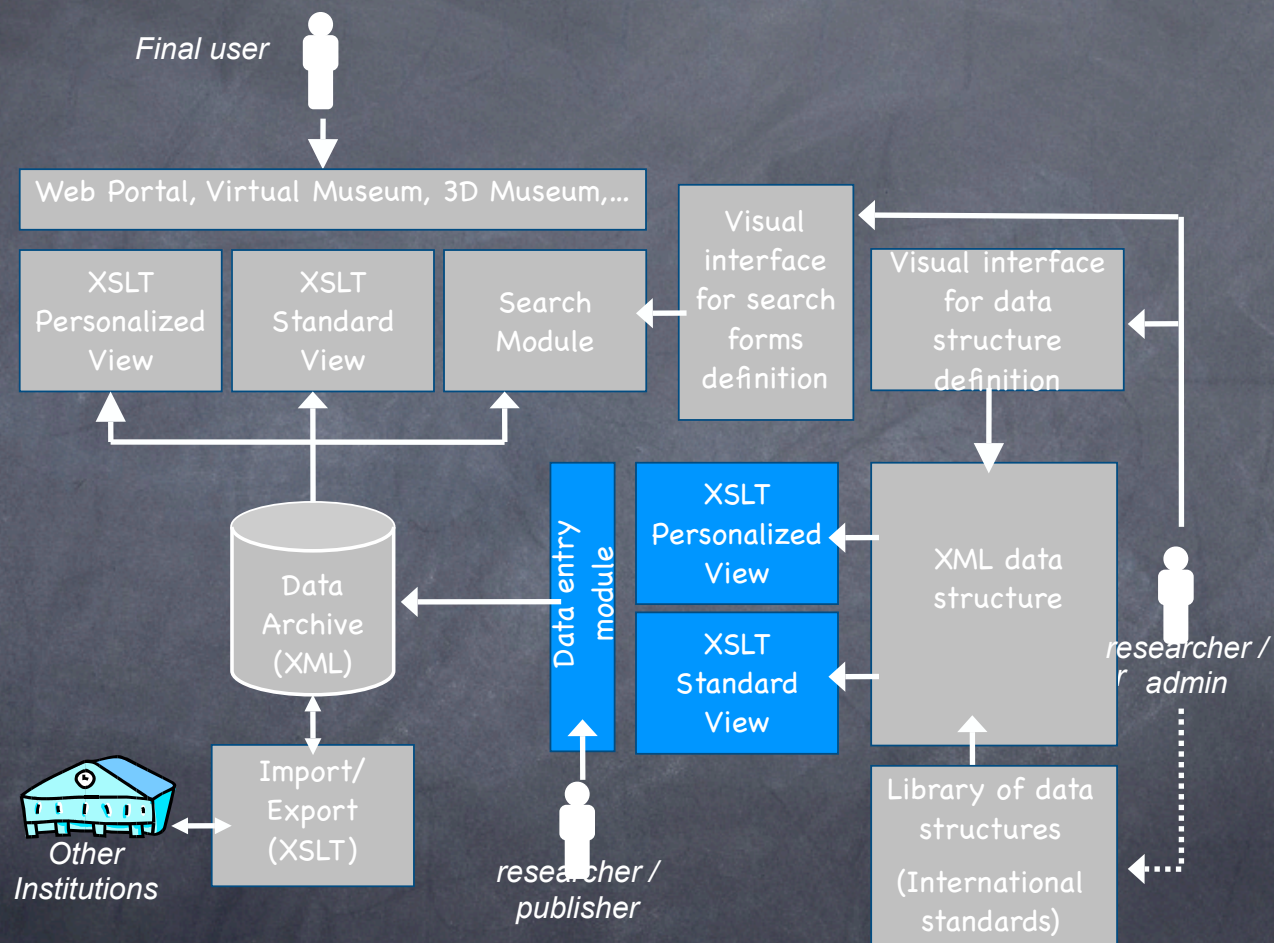
Platform Architecture



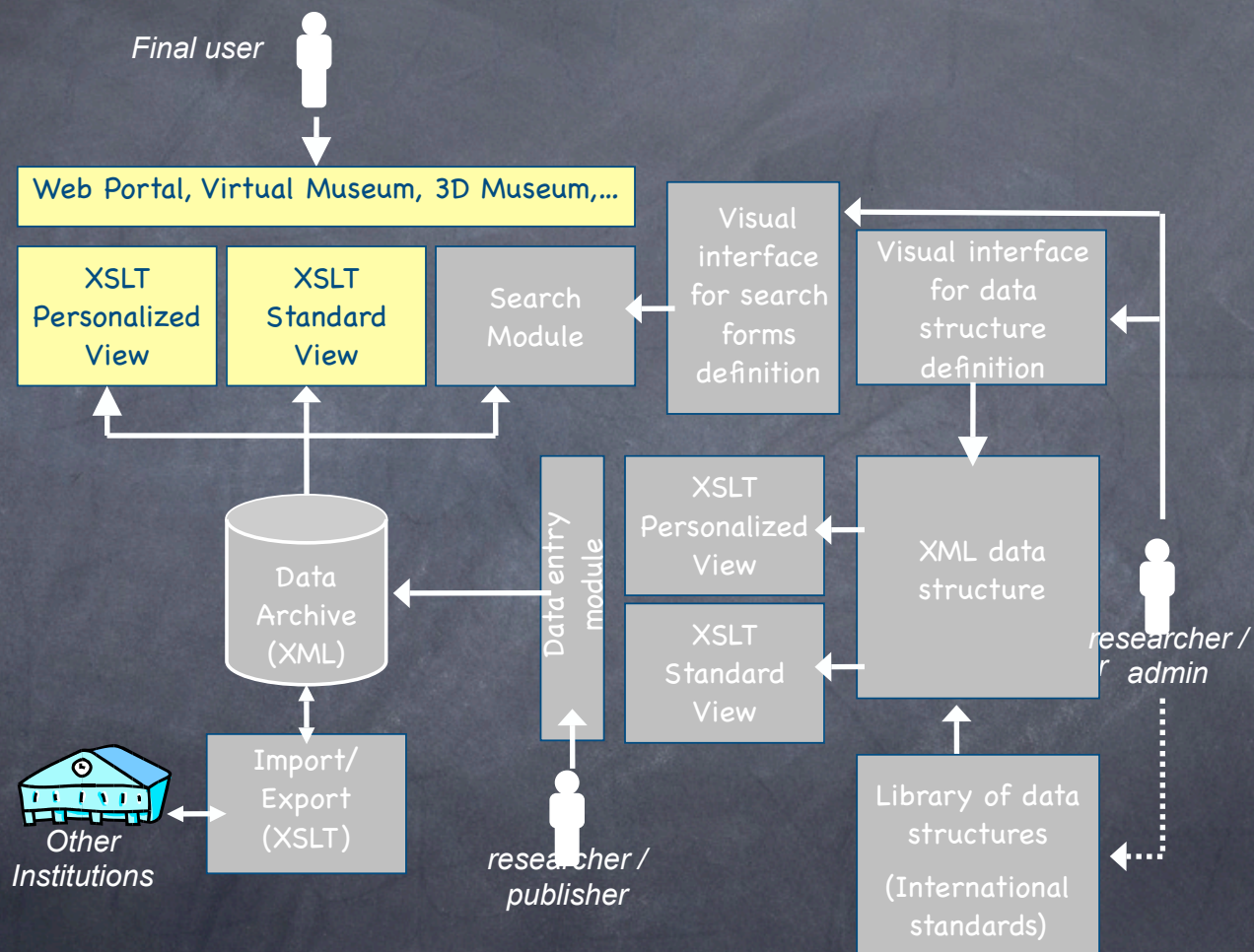
Visual Interface for data structure definition or Library of data structures



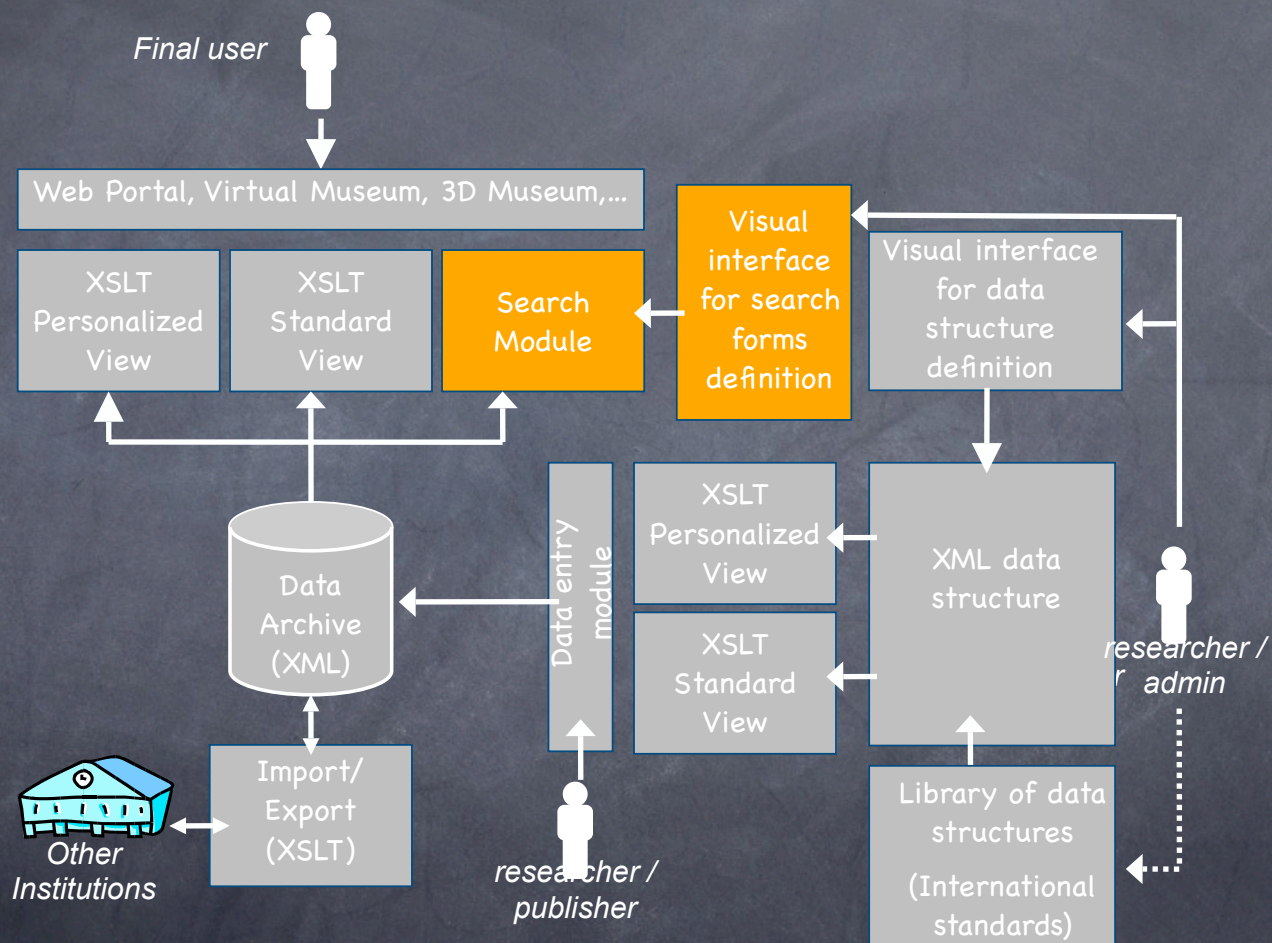
Module for data entry



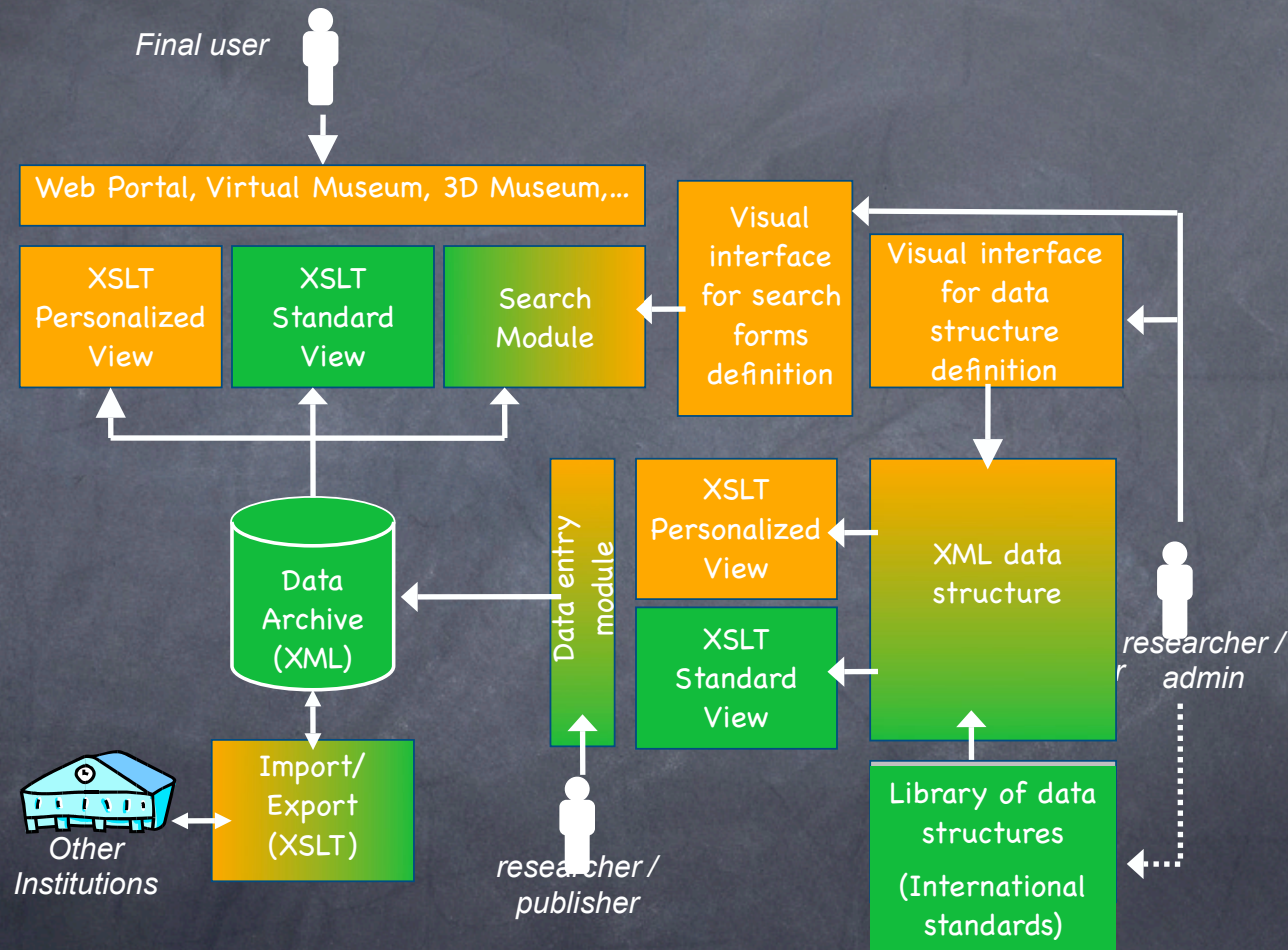
Standard and personalized view



Search Module



Standard and Personalized use of the Platform





Records publishing **Projects management**

PROJECTS LIST

CREATE A NEW PROJECT

ADVANCED SEARCH ADMINISTRATION

CARDS LIST

CREATE A NEW CARD

PROJECT: Birla Archaeological & Cultural Research Institute Art Collections

Cards list

Last modifica	Card name	Description	Validity	Publication	Actions
28-07-2025 12:46	Nemala Birla Gallery of Modern Art	Filing and cataloguing cards of the contemporary paintings and sculptures belonging to the Institute's Nemala Birla Gallery of Modern Art.	✓	P	WOOF! PROPERTIES CLONE REMOVE
27-01-2025 12:27	Archaeological Museum	Filing and cataloguing cards of the sculptures and bronzes belonging to the Institute's Archaeological Museum.	✓	P	WOOF! PROPERTIES CLONE REMOVE

manager interface

Field configuration base fields

SAVE THE MODIFICATIONS NEW FIELDS

Order	Name	Type	Searchable	Listable	Iterable	Necessary	Actions
↓ ↑	IMAGE	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	OBJECT	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	TITLE	Small text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	CREATION	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	SUBJECT	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	MATERIAL AND TECHNIQUE	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	MEASUREMENTS	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	CONDITION	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	LOCATION	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE
↓ ↑	RECORDER	Composite element	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES REMOVE

Field content: CREATION [Go back to the base fields](#)

[SAVE THE MODIFICATIONS](#) [NEW FIELDS](#)

Order	Name	Type	Searchable	Listable	Iterable	Necessary	Actions
↓ ↑	Creator	Keywords	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 PROPERTIES REMOVE
↓ ↑	Period	Small text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 PROPERTIES REMOVE
↓ ↑	Dynasty	Vocabulary (5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
↓ ↑	Provenance	Small text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
↓ ↑	Notes	Small text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

manager interface

Field content: CREATION

Creator
 SEARCHABLE
unknown **default value**

Period
 SEARCHABLE

Dynasty
 SEARCHABLE

Provenance
 SEARCHABLE

Notes
 SEARCHABLE

entries list

- Chalukyan
- Gandhara
- Kakatiya
- Rashtrakuta
- Vijayanagara

publisher interface

Field content: MEASUREMENTS [Go back to the base fields](#)

[SAVE THE MODIFICATIONS](#) [NEW FIELDS](#)

Order	Name	Type	Searchable	Listable	Iterable	Necessary	Actions
↓ ↑	Height	Decimal number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	↑ PROPERTIES ↓ REMOVE
↓ ↑	Widht	Decimal number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	↑ PROPERTIES ↓ REMOVE
↓ ↑	Depth	Decimal number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES ↓ REMOVE
↓ ↑	Unit	Keywords	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	↑ PROPERTIES ↓ REMOVE
↓ ↑	Notes	Small text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↑ PROPERTIES ↓ REMOVE

manager
interface

publisher
interface

Field content: MEASUREMENTS [Go back to the base fields](#)

[SAVE THE MODIFICATIONS](#)

Height
 SEARCHABLE

Widht
 SEARCHABLE

Depth
 SEARCHABLE

Unit
 SEARCHABLE

Notes
 SEARCHABLE

default
value

E-CONTENTS PLATFORM



Records publishing **Projects management**

PROJECTS LIST

CREATE A NEW PROJECT

ADVANCED SEARCH ADMINISTRATION

CARDS LIST

CREATE A NEW CARD

PROJECT: Tessitori and India

List of the advanced search forms

Sequence of steps

STEPS	DESCRIPTION	
1	List of the advanced search forms	current
2	Creation of an advanced search form	go to this step
3	Modification of an advanced search form	-
4	Creation of an advanced search field	-
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



MODIFY 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 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



Final user interface

ICT for EU-India Cross Cultural Dissemination

E-Dvara

E-Content Platform for Heritage and Science



You are in: [Home](#)

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 accessible 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.
- ➔ **Birla Archeological & Cultural Research**

Virtual museum



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

AVAILABLE SOON



Kurnool Museum
It is online the "Kurnool Museum" where you can find virtual experiments in several fields, including mechanics, optics, mathematics, etc.

AVAILABLE SOON

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](#)







EU-India
Economic
Cross
Cultural
Programme

E-Dvara
E-Content Platform for Heritage and Science

You are in: Home > Archives > Birla Archaeological & Cultural Research Institute Art Collections

Access to archive: Birla Archaeological & Cultural Research Institute Art Collections

There are currently 32 items in this archive.

Title	Description
	bronze D.11 - Siva Parvati Dancing
	bronze B.34 - Vishnu
	bronze B.37 - Yogi-Nara
	bronze D.109 - Dancing Ganesha
	bronze B.242 - Rama, Sita and Lakshmana

Page 1 of 7 next

selected record


ICT for EU-India Cross Cultural Dissemination

E-Dvara
E-Content Platform for Heritage and Science

You are in: Home > Archives > Birla Archaeological & Cultural Research Institute Art Collections

Birla Archaeological & Cultural Research Institute

bronze:

IMAGE:
Save: 

Rama, Sita and Lakshmana, XIX century, Birla Archaeological & Cultural Re

OBJECT:
Classification: bronze
Type: statue

TITLE: Rama, Sita and Lakshmana

CREATION:
Creator: unknown
Period: XIX century
Provenance: unknown - Taminadu

SUBJECT:
Identification: Rama, Sita and Lakshmana in standing posture
Description:
Rama is one of the ten incarnations of Lord Vishnu, representing the Lakshmana's consort. Here they are represented on padma pilhas; Rama holding bow in their left and arrow in their right hand, while Sita is on hand. Behind there is a prabhavali, ornamented with mukutas and kirita mukha tops in the centre.

MATERIAL AND TECHNIQUE:
Material: bronze

MEASUREMENTS:
Height: 29.0
Width: 25.0
Unit: cm

CONDITION:
Description: good

LOCATION:
Repository Number: B.242

RECORDER:
Date: 20/07/2005


selected image

http://archiviazione.infactory.it:7080/uniud...

File Modifica Visualizza Preferiti Strumenti ?

Indietro Avanti Termina Aggiorna

Indirizzo http://archiviazione.infactory.it:7080/uni



Operazione con Internet



user interface

ICT for EU-India Cross Cultural Dissemination

E-Dvara

E-Content Platform for Heritage and Science

You are in: [Home](#) > [Archives](#) > [Birla Archaeological & Cultural Research Institute Art Collections recordings](#)

Access to archive: Birla Archaeological & Cultural Research Institute Art Collections

There are currently 32 items in this archive.

Page 1 of 7 next

Title	Description
 bronze	B.11 - Giva Parvati Dancing
 bronze	B.34 - Vishnu
 bronze	B.37
 bronze	D.109
 bronze	B.242

Search

In order to search digital e-contents in this archive insert some keywords.

user interface

search result

ICT for EU-India Cross Cultural Dissemination


E-Dvara

E-Content Platform for Heritage and Science

You are in: [Home](#) > [Archives](#) > [Birla Archaeological & Cultural Research Institute Art Collections recordings](#)

Search results from archive: Birla Archaeological & Cultural Research Institute Art Collections

Your search found 1 items in this archive.

Title	Description
 sculpture	S.244 - Yakshi

Search


In order to search digital e-contents in this archive insert some keywords.

E-Dvara
E-Content Platform for Heritage and Science

ICT for EU-India Cross Cultural Dissemination

You are in: [Home](#) > [Archives](#) > [Birla Archaeological & Cultural Research Institute Art Collection recordings](#)

Birla Archaeological & Cultural Research Institute Art sculpture

IMAGE:
Save: 

Yakshi, X century, Birla Archaeological and Cultural Research Institute, Hyderabad

OBJECT:
Classifications: sculpture

TITLE: Yakshi

CREATION:
Creator: unknown
Period: X century
Dynasty: Kakatiya
Provenance: Padampet, Karimnagar District - Andhra Pradesh

SUBJECT:
Identification: nude Yakshi in tribhanga standing posture
Description:
Yakshas and Yakshis, along with Gandharvas and others, are demigods. Yakshi heavy breast and thighs, slender waist and both hands raised over her head she is adorned with kundalas, kankanas, haras and manjiras. two human figure base of the back panel one on either side.

MATERIAL AND TECHNIQUE:
Material: granite
Technique: sculpting


MEASUREMENTS:
Height: 150.0
Width: 57.0
Unit: cm

CONDITION:
Description: fair
Details:
The top portion above the figure's head is missing.

LOCATION:
Repository Number: S.244

RECORDER:
Date: 21/07/2005

http://158.110.144.249:7...
File Modifica Visualizza Pre >>
Indietro Avanti >>>
Indirizzo Vai Norton AntiVirus <>
Internet



selected image

user interface

<http://archiviazione.infofactory.it/lida>

Final user interface

Archivio digitale dei progetti LIDA

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.

Accedi ai progetti di archiviazione



Collezioni veneziane nell'età di Pietro Edwards

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.



Arte Moderna Italiana Scheiwiller

Repertorio iconografico della collana "Arte Moderna Italiana" di Giovanni Scheiwiller (1925-1935)



Gli elenchi fotografici del patrimonio monumentale italiano (1878-1886)

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

News

3 - 5 giugno 2005
Provincia di Roma - Città del Vaticano, Roma (Italy)
9° 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](#)



Sei in: [Home](#) > [Archivi](#) > [Collezioni veneziane nell'età di Pietro Edwards documenti](#)

Accedi agli archivi: Collezioni veneziane nell'età di Pietro Edwards

Ci sono attualmente 311 documenti in questo archivio.

Pag. **1** di 63 [successiva](#)

Titolo	Descrizione
 Donà	Lazzerini
 Donà	Lazzerini
 Donà	Lazzerini
 Donà	Ricci
 Donà	Franco

Search

In order to search digital e-contents in this archive insert some keywords.

Collezioni veneziane

keyword

Artista

Titolo

Soggetto

Proprietario

Data del documento

Stimatore

Materiale

Numero di inventario

Conclusions

- The **generalized approach** allows to deal with 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

Current & Future Work

- Contribution of visitors
 - Save **comments** and info provided by users about items exposed in the digital library
 - Other visitors can read comments and write other **opinions** or provide other info
 - **Rating** presentation and contents
- Hands on museums
 - Physics, Computer science
 - **virtual experiments** (attachment of flash file)
- 3D & VR presentation of content

3D Virtual Museums

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

Archivio digitale dei progetti LIDA

Collezioni veneziane nell'età
Ricerca

Titolo: Conversazione di san Paolo di Jacopo Tintoretto

Numero Dell'Inventario: 0
Numero Dell'Opera: 17

ARTISTA:
Denominazione Originale: Andrea Schiavone
Denominazione Standard: Schiavone A.

Descrizione Originale Dell'Opera: La Conversione di san Paolo
Soggetto: scene religiose
Tipologia: cultura

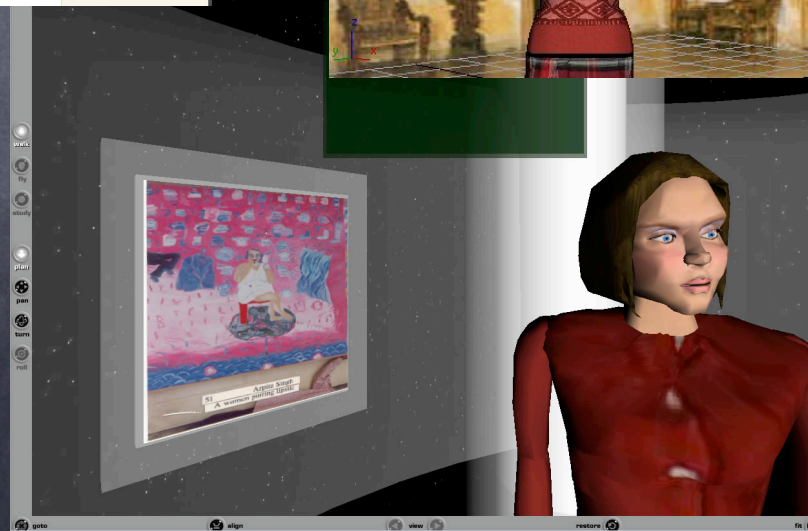
DIMENSIONI:
Altezza: 4 piedi e 6 oncie venete
Larghezza: 6 piedi e 9 oncie venete

STIMA:
Valore: 264.0

Unità Monetaria: lire italiane
Luogo: Rivista Camera della Galleria
Collocazione Attuale: Washington, National Gallery of Art

Immagine:
Jacopo Tintoretto, Conversazione di san Paolo, Washington, National Gallery of Art.

SCHEDATORE:
Nome Schedatore: Degano Alessia
Data: 05/07/2005



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