Specifications for inventories of digitised content

Minerva project

European countries have already invested significantly in programmes for digitising cultural and scientific content. These activities have included several areas, such as museum objects, archaeological and environmentally important sites, music and audio-visual archives, bibliographic materials, documents and manuscripts. The main challenges are now promoting the uptake of new technologies for the digitisation of cultural and scientific content, ensuring lasting accessibility and preservation, the development of new services and job opportunities. Other important objectives include strengthening the European content industry and stronger support for its co-operation with educational communities, with consequent mobilisation of material and immaterial resources.

The National Representatives Group on digitisation of cultural and scientific heritage has supported all European countries in setting and explaining policies, defining the scope and structuring of this field and the Minerva project aims at providing common tools to support those policies.
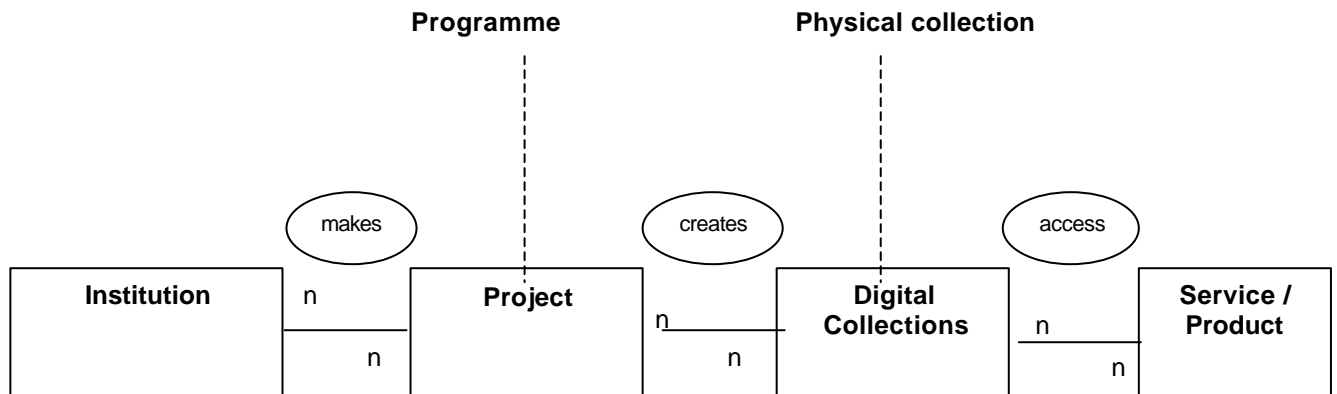
Policies need indicators and scoreboards as decision-making tools, which can help set the priorities for digitisation, evaluate the progress, impact and results of the frameworks implemented in each country.

In order to facilitate the structuring and the management of the digitisation activity and to facilitate digital resource discovery, national inventories of digitisation projects and digitised collections have been set up in various countries. They describe institutions which lead such projects, projects, digital collections created and services and products made to access digitised content. Such strategic tools help identifying what is going on with digitisation and which are the results of policies implemented, they allow to measure the outcomes of the framework and possibly set priorities for future programmes.

Minerva agreements for inventories of digitised content

1. Respect of the data model of digital content creation.
2. Systems to build OAI-PMH repositories to exchange XML-formatted metadata with other European partners.
3. Availability of metadata in Dublin Core Culture in OAI-PMH repositories, and, optionally in full RSLP-based metadata formats.
4. Whenever possible, create equivalence between terminologies used and Minerva proposed terminologies.
5. Respect quality principles for cultural Websites.

Data model of digital cultural content creation

Programme

Physical collection

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                        makes                     creates                    access

┌──────────────┐        ┌──────────────┐        ┌──────────────┐        ┌──────────────┐
│              │   n    │              │   n    │   Digital    │   n    │  Service /   │
│  Institution │        │   Project    │        │ Collections  │        │   Product    │
│              │        │              │   n    │              │   n    │              │
└──────────────┘   n    └──────────────┘        └──────────────┘        └──────────────┘
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	Institution		
Minerva Attribute	**RDF property**	**Definition**	
General attributes			
Institution Name	**vcard:fn**	The name of the institution in charge.	
Identifier	**dc:identifier**	A formal identifier for the institution.	
Type		Institution activity sector, whether archive, library, museum, local community…	
Legal Status		Administrative status of the institution, whether public, commercial or non profit	
Jurisdiction		The organisation the institution is affiliated with eg. an institution under the umbrella of a ministry.	
Role	**vcard:role**	The role (typically an organisational role) fulfilled by the institution in the digitisation process.	
Telephone number	**vcard:voice** (sub-property of vcard:tel)	The telephone number of the institution contact.	
Fax number	**vcard:fax** (sub-property of vcard:tel)	The fax number of the institution contact.	
Email address	**vcard:email**	The electronic mail address of the agent.	
Address	**vcard:adr:pobox vcard:adr:street vcard:locality vcard:region vcard:pcode vcard:country**	Physical location of the institution	
URL	**vcard:URL**	Institutional Website	

Project		
Minerva Attribute	**RDF property**	**Definition**
General attributes		
Title	**dc:title**	The name of the project.
Identifier	**dc:identifier**	A formal identifier for the collection.
Status		Project status, whether planned, on-going or completed
Start date	**dc:date**	Start date of the project
Completion date	**dc:date**	Completion date of the project
Description	**dc:description**	A description of the project, including objectives, textual or keywords.
Digitisation process	**dc:description**	The technical feature of the digitisation process, whether direct or indirect, which technical choices…
Funding		Funding sources, amount, duration, including Associated programme
Institution in charge	**dc:creator**	Institution responsible for the project
Contributing institution	**dc:contributor**	Other institutions involved in the project
Associated project	**dc:relation**	Related projects
Contact person	**vcard:fn**	Name of contact person, project manager
Telephone number	**vcard:voice (sub-property of vcard:tel)**	The telephone number of the contact person.
Fax number	**vcard:fax (sub-property of vcard:tel)**	The fax number of the contact person
Email address	**vcard:email**	The electronic mail address of the contact person.
Mail address	**vcard:adr:pobox vcard:adr:street vcard:locality vcard:region vcard:pcode vcard:country**	Physical address of the contact person

Digital Collection		
Minerva Attribute	**RDF property**	**Definition**
General attributes		
Title	**dc:title**	The name of the collection.
Identifier	**dc:identifier**	A formal identifier for the collection.
Description	**dc:description**	A description of the collection.
Digital document format	**dc:format**	The physical or digital characteristics of the collection.
Language	**dc:language**	The language of the items in the collection.
Digital document type	**dc:type**	The type of the collection content : Text / Image / Interactive resource / sound
Access Control	**cld:accessControl** (sub-property of dc:rights)	A statement of any access restrictions placed on the collection, including allowed users, charges, etc.
Size	**dc:format**	An evaluation of the size of the collection. Is dc:format as physical description of the collection in DC Collection
Accrual Status	**cld:accrualStatus** (sub-property of dc:description)	A statement of accrual policy (closed, passive, active, partial/selective), accrual method (purchase, deposit)) and accrual periodicity (closed, irregular, periodic). Especially important for harvesting purpose to foreseen evolution of aggregated resources.
Standards	**dc:description**	Descriptive and terminology standards used.
Legal Status and IPR	**cld:legalStatus** (sub-property of dc:description)	A statement of the legal status of the collection.
Associated service / product	**cld:hasLocation** (sub-property of dc:relation)	The identifier for the online location of the collection.
Subject		
Subject	**dc:subject**	A concept (keyword) of the items in the collection.
Spatial coverage	**dcq:spatial** (sub-property of dc:coverage)	The spatial coverage of the items in the collection.
Temporal coverage	**dcq:temporal** (sub-property of dc:coverage)	The temporal coverage of the items in the collection.
Associated agents		
Owner	**cld:owner**	The identifier for an agent or institution who has legal possession of the collection.
Associated Project	**dc:creator**	The identifier for an agent who gathers (or gathered) the items in a collection together.
External relationships		

Illustration	**dcq:hasPart** (sub-property of dc:relation)	Resources contained in the collection.
Physical collection	**cld:hasAssociation** (sub-property of dc:relation)	Source physical collection(s)
Associated collection	**cld:hasAssociation** (sub-property of dc:relation)	The identifier or name of a second collection that is associated [by provenance] with the current c ollection.
Audience		Audience of the collection if the aggregation of items is done for a specific audience

Physical Collection		
Minerva Attribute	**RDF property**	**Definition**
General attributes		
Title	**dc:title**	The name of the collection.
Identifier	**dc:identifier**	A formal identifier for the collection.
Description	**dc:description**	A description of the collection.
Physical document formats	**dc:format**	The physical characteristics of the source objects for digitisation.
Institution	**cld:hasLocation** (sub-property of dc:relation)	The identifier for the physical location of the collection, institution which holds (s) the physical collection
Associated digital collection	**cld:hasAssociation** (sub-property of dc:relation)	The identifier or name of a second collection that is the digital representation with part of or the whole current collection.

<table>
<tr><td colspan="3" align="center">Service / Product [RSLP Location]</td></tr>
<tr><td align="center">Minerva Attribute</td><td align="center">RDF property</td><td align="center">Definition</td></tr>
<tr><td colspan="3">General attributes</td></tr>
<tr><td>Name</td><td>dc:title</td><td>The name of the location.</td></tr>
<tr><td>Identifier</td><td>dc:identifier</td><td>A formal identifier for the location.</td></tr>
<tr><td>Language</td><td>cld:accessConditions</td><td>Language(s) in which the service / product is available, eg. multilingual Website</td></tr>
<tr><td>Type</td><td>dc:type</td><td>DC:type service but may be better defined (eg. database, virtual exhibition….)</td></tr>
<tr><td>Description</td><td>dc:description</td><td></td></tr>
<tr><td>Technical environment</td><td>dc:description</td><td>Technical features of the service / product</td></tr>
<tr><td>Communication protocol</td><td>Dc:description</td><td>Mention any communication protocol such as OAI-PMH, ZING, Z39.50</td></tr>
<tr><td>Access Conditions</td><td>cld:accessConditions</td><td>Hours of access, classes of permitted user, fees…, technical requirements, if a plug-in or any type of specific technical device or software is needed to access the service / product. WAI compliance ….</td></tr>
<tr><td>Collection contained</td><td>cld:isLocationOf
(sub-property of dc:relation)</td><td>The identifier for a collection held online (digital) location.</td></tr>
<tr><td>Audience</td><td></td><td>Audience of the service, which is designed for one or multiple category (ies) of users</td></tr>
<tr><td>Maintenance</td><td></td><td>Maintenance conditions (data update…)</td></tr>
<tr><td colspan="3">Associated agents</td></tr>
<tr><td>Publisher</td><td>dc:publisher</td><td>Institution or person responsible for making the resource available</td></tr>
<tr><td>Administrator</td><td>cld:administrator
(sub-property of dc:publisher)</td><td>The identifier for an agent who has responsibility for the physical or electronic env ironment in which the collection is held.</td></tr>
<tr><td colspan="3">Online location</td></tr>
<tr><td>Location</td><td>cld:locator
(sub-property of dc:identifier)</td><td>The online location (URL) of an online (digital) collection.</td></tr>
</table>

Equivalence to DC.Culture schema

DC Culture elements	Equivalence
Who	
Creator	*Project – institution in charge (institution name)*
Publisher	*Service – publisher*
Contributor	*Project – contributing institution (institution name)*
Rights	*Digital collection – Legal status and IPR*
What	
Title	*Service – title*
Description	*Physical collection - description* *Digital collection - subject* *Digital collection - description* *Service – description*
Type	*Digital collection – digital document types* *Service – type*
Format	*Physical collection – format* *Digital collection – format*
Identifier	*Service – location*
Source	*Physical collection – name*
Language	*Digital collection – language*
Relation	*Project – name* *Digital collection – has association* *Project – has association*
Where	*Digital collection – spatial coverage*
When	*Digital collection – temporal coverage*

Element	Terminology
Spatial coverage	1 level down country level for the country considered (regions / provinces / states) + country level for main European countries + continents Best practice would include the reference to a thesaurus
Temporal coverage	Centuries or periods which can be translated into proper dates to ensure interoperability with additional systems Paleolithic III millennium bc VI c. bc I c VII c XIII c XIX c Mesolithic II millennium bc V c. bc II c VIII c XIV c XX c Neolithic I millennium bc IV c. bc III c IX c XV c XXI c Calcolithic IX c. bc. III c. bc IV c X c. XVI c Bronze age VIII c. bc II c. bc V c XI c XVII c Iron Age VII c. bc I c. bc VI c XII c XVIII c
Subject	Archaeology Buildings, Architecture & Monuments Cinema & audiovisual Contemporary art Costume & Textiles Decorative and applied arts Economics Ethnology & anthropology Fine arts Geography Health & medicine Industry & commerce landscapes Law Literature Local history Music Performing arts Philosophy Politics Religion & Beliefs Science & Technology Transports Urbanism & planning (regional, town, country)
Physical document format	Books Articles Newspapers Serials Yearbooks Manuscripts Illuminated manuscripts Bibliographic records Numerical / statistical data Archival records Notes, coins and medals Maps Moving image Printed Images Drawings Engravings Photography Postcard Sound track Archaeological site Monument Incunabulum Installation Musical instrument Music score painting Jewellery Sculpture Textile Cadaster
Digital document types	Still Image Moving image Interactive resource Sound Text 3D
Digital document formats	AVI video Bitmap Image GIF image HTML JPEG file Macromedia Director Macromedia Flash Midi audio Mpeg audio Mpeg video PDF Plain Text PNG Quicktime video Real Audio Sun audio (au) TIFF Image WAV (audio) XML SVG
Audience	formal education life-long learning professional leisure / tourism academic research general public children
Project status	completed / on-going / planned
Access services type	CDRom Interactive terminal Virtual exhibition / gallery DVDRom Online database Offline database Paper Website Teaching aid Portal
Services Communication protocol	Z39.50 OAI-PMH
Institution types	library museum archive academic / university information centre other
Country	ISO 3166-1
Language	ISO 639-2