

Towards European Cultural Heritage as Widely Accessible eContent

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All Ideas are Equal - Heterogeneous Access to Cultural Heritage -

- ⇒ Let all owners of Cultural Heritage material prepare their objects, as *they* see fit!
- ⇒ Provide different European access frameworks for different visions of Europe's heritage

Agenda

- Introduction: Concepts, Hypothesis, Goals
- Two Examples
- Operational Issues
- Consequences & Recommendation
- Commercial Opportunities
- Outlook - Points of View

Cultural Heritage

'Whatever' is represented in

- Libraries
- Archives
- Museums

Heavily based on research policy of European Commission over last two decades

mentioned in

'Draft Constitution'

... broader understanding possible ...

Cultural Heritage

as eContent

in addition

?

instead

Cultural Heritage as eContent

Basic Assumption:

Visual reproduction of object *more expensive* than publishing description of this object

- ↳ **Important** objects are 'edited'; **most important** ones are 'scanned';
- ⇒ Rest remains untreated

Opportunity: 'Rest' becomes increasingly **smaller** !

Cultural Heritage as eContent: Provocative Hypothesis



Successful digitization



No museums, archive or libraries

BUT INSTEAD

... some hundred of millions easily and freely combinable digital objects of culture heritage ?

Cultural Heritage as eContent: Goals



Create high quality reproductions of 'large' amounts of source material

BUT: Such 'images' not searchable

Wanted: Presentation of source material allowing (under given financial restrictions)

- Accessible source material at least one order of magnitude larger than traditional forms of publication
- Cataloguing by access information
- Digital representations going beyond print possibilities

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Cultural Heritage as eContent: 'Diözesan- and Dom' Library Cologne (1)



- 'Systematic and complete digitization' of library of medieval cathedral
- Test whether complete holdings instead of individual objects can be digitized & replace 'default medium of scholarship'
- Purpose *not* to reproduce what can be done in print, but to open material for study not accessible by traditional technology

See www.hki.uni-koeln.de

Cultural Heritage as eContent: 'Diözesan- and Dom' Library Cologne (2)



2001-2004

Volume: about 130,000 pages
Raw data volume: Ca. 35-48 MB per page
= 3.6 TB
= 6,000 CD-ROMs

... sufficiently cost effective to become a matter of routine

Not library any more,

but about half a million freely addressable
'Digital Autonomous Cultural Objects' (DACOs)

Cultural Heritage as eContent: Distributed Digital Incunabula Library



Purpose

- Prototype for 'complete digitization of all German incunabula' (books before 1500)
- 'Broker' directing users to library with digital copy
- Show that such servers can be done fast and cheaply

Technical Layout

- Digitization of ca. 2,000 - 3,000 titles in two German libraries
- Volume: About 350,000 pages
- Raw data volume: Ca. 12 TB
- Price of Cologne server: 55,000 Euro with 1 TB capacity

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Cultural Heritage as eContent: Operational Issues

- What **technological solutions** do we have to systematically digitize large quantities of sources over longer period?
- What does it **cost**?
- How is it to be **organized**?
- What **precautions** are needed to keep material accessible over long period?

Cultural Heritage as eContent: Technical Solutions

Emphasis on
data base tools

WWW orientation
with DBMS in
background

Emphasis on image
enhancement possibilities

Concentration
on access tools

Issues to control large data
sets within hierarchical
storage design

Obsolete by
dwindling prices
for storage media

e.g. 'German incunabula':
1 TB for € 5,300

Cultural Heritage as eContent: Cost Factors of Digitization

- Raw digitization
- Content and subject classification
- Workflow / Data importation
- Storage capacity
- WWW Server

Example: '**Incunabula Library**'
About € 0.75 / page
plus metadata and work environment

Cultural Heritage as eContent: Questions of Organization

Who digitizes?

Who selects?

Who controls access?

Cultural Heritage as eContent: Costs for Physical Survival (Precautions Needed)

Assumption

After 10 years, migration to next generation of storage media
cheaper than further maintenance of original media

⇒ Calculate costs of migration beforehand!

Example: Prices for DVD-R writers

1998:	1999:	2001:
Ca. US\$ 20,000	Ca. US\$ 4,500	Bundled with standard PCs

Cultural Heritage as eContent: Intermediate Results



- So far,
description of objects cheaper than visual reproduction
- With modern digital technology,
reproducing visual appearance of text
cheaper than description

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Cultural Heritage as eContent: Consequences & Recommendation



What has been published by highly developed technologies of
last decades is available;

- Turn new technologies to types and amounts of material,
not publicly available until ten years ago

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Cultural Heritage as eContent: Opportunities for Commercial Exploitation



- *Image server* informing about visual available information
- *Selected images* to be downloaded *for free* in low quality;
images protected by 'watermarks', 'signatures', or both
- For *higher resolution*, *purchase of proprietary software
components* necessary

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Cultural Heritage as eContent: Points of View



Same, Just 'More Beautiful'

- Digital 'facsimiles' of important manuscripts
- Digital 'facsimiles' with intensive development, e.g. word-based linking
- Imitating possibilities of printed objects on screen

Substantially New

- Making largest possible amount of sources available
- Digital corpora with 'flat' access tools
- New technical potential **beyond** print offerings

.... Questions, Comments, Complaints ?



Beyond this Talk:

Professional **Association of Information Systems**

➔ www.aisnet.org

Thank you very much for your attention !

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