

eContentplus

European Commission Information Society and Media Directorate-General

BERNSTEIN - THE MEMORY OF PAPERS

Collaborative systems for paper expertise and history

ECP-2005-CULT-038097/Bernstein

First validation report

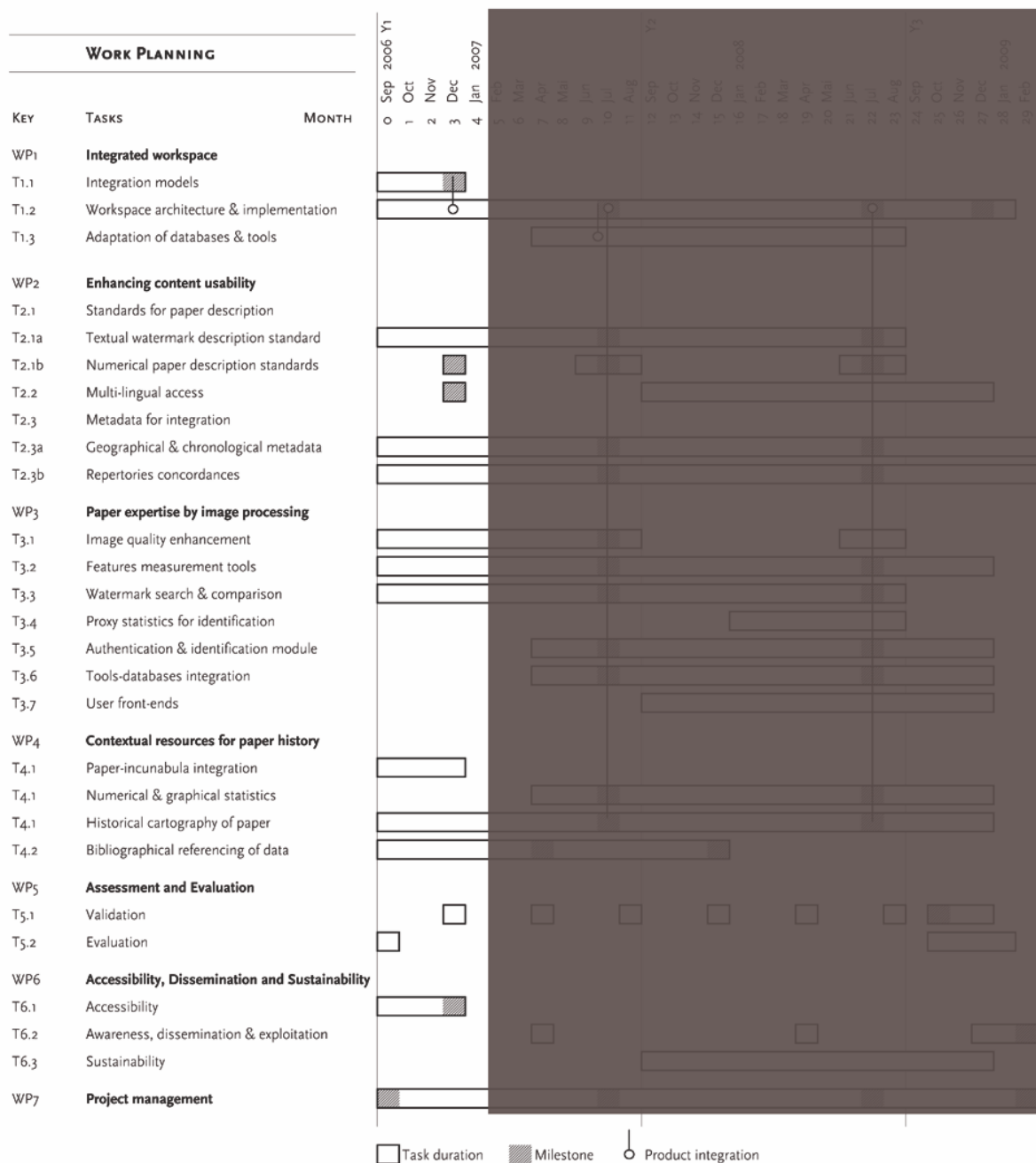
1. Aims in the Bernstein-project work plan

1.1 Project plan and milestones (from Bernstein proposal)

ECP:PROPOSAL

>bernstein

4.5 Project plan



1.2 Work-package description

Work-package 1 "Integrated workspace"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/29

OEAW	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
9	20	82	3	12	6	13	7	5

Objectives (according to Bernstein proposal)

- Integrate resources
- Connect components
- Interpret content
- Emerging knowledge
- Assist users

Milestones

m1.1 / during month 3 - Decision of integration model

Deliverables

D 1.1 / m 4 - Integration models report

Description of work (according to proposal)

T 1.1 / TUG, LABW, **DUT** - Integration models

TUG	Investigation of the existing databases and collecting information for database integration Identification of conceptual models for an intelligent management of the digital resources
LABW	X Inventory of available software for automatic identification and matching of both paper structure (laid and chain line features) and watermarks (work in progress)
DUT	Discussion of integration architecture - identification of several conceptual models
LU	
KB	Analysis and description of the database structure researching possibilities to convert the MS Access structure to XML gathering and providing information for the technical people of Bernstein

T 1.2 / OEAW (VISKOM), **TUG**, LABW, DUT - Workspace architecture & implementation

OEAW (VISKOM)	proof-reading of Piccard (Waage, Dreiberg, Werkzeuge u. Waffen) and Zonghi metadata
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TUG	Considerations to potential workspace architecture
LABW	X
DUT	X
LU	Identification of integration strategy for ISTC - KB
KB	gathering and providing information for surface linking with Stuttgart and WMZA
	investigation of the use of Briquet numbers for databasel linking
	pilot webpage for possible integration model for the databases

T 1.3 / OEAW (VISKOM & KSBM), DNB, LAMOP, LABW, NIKI, KB - Adaptation of databases & tools

OEAW (VISKOM)	preparation of use cases
OEAW (KSBM)	preparation of WZMA-data for Leitner/Sinnerl
	working on a program for creating PDF-files where the images are connected to metadata
	converting wm-images to 100 dpi
DNB	Schema of bibliographical database
	Use cases for bibliographical and watermark research
LAMOP	X
LABW	Use case
	actualisation of 'Piccard' database
NIKI	Use case
	bug fixing in PDF-generator and search engine
	adaptation of NIKI database (new DB-interface)
	Inventory of available software for automatic identification and matching of both paper structure (laid and chain line features) and watermarks (work in progress)
DUT	
KB	X
LU	Collection and analysis of use cases

Work-package 2 "Enhancing content usability"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/28

OEAW	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
45	35	2	34	2	6	9	5	1

Objectives (according to Bernstein proposal)

2.1 / Develop standards for paper description

2.2 / Provide multi-lingual access

2.3 / Complete metadata coverage

Milestones

M2.1 / m3 - Definition on the format type for numerical description standards

M2.2 / m3 - Definition on how the multi-language support across systems will be implemented

Deliverables

No deliverables in this evaluation period

Description of work (according to proposal)

T2.1 Standards for paper description

T2.1a OEAW (VISKOM & KSBM), **LABW**, NIKI, DUT, KB - Textual watermark description standard

OEAW (VISKOM)	coordination of the imprint variability experiment coordination of the component model for database integration creating of new webpages: http://www.ksbm.oeaw.ac.at/wzrep/briquet.htm (therefore measurements for about 8000 images);
OEAW (KSBM)	http://www.ksbm.oeaw.ac.at/wz/lit/rep.htm
LABW	preparation and organization of WP-2 meeting, heeld in Stuttgart
NIKI	X
DUT	X
KB	X
DNB	X

T2.1b OEAW (VISKOM & KSBM), LABW, NIKI, **DUT**, KB - Numerical paper description standards

OEAW (VISKOM)	X
OEAW (KSBM)	X
LABW	X

NIKI	X
DUT	Identification of paper features to be measured
KB	X

T2.2 OEAW (VISKOM & KSBM), TUG, LAMOP, LABW, NIKI, DUT, KB - Multi-lingual access:

OEAW (VISKOM)	X
OEAW (KSBM)	X
TUG	X
LAMOP	X
LABW	X
NIKI	X
DUT	X
KB	X

T2.3 - Metadata for integration

T2.3a **OEAW** (KSBM), **LAMOP**, LABW, KB - Geographical & chronological metadata

OEAW (KSBM)	X
	Increasing and updating of a general incunabula database for statistical purposes to link with watermarks databases and use with the new GIS (Graphic Interface Software (Formatting data about medieval authors printed in incunabula -work in progress)
LAMOP	
LABW	X
KB	X

T2.3b **OEAW** (KSBM), LAMOP, LABW - Repertories concordances

OEAW (KSBM)	X
	Increasing the unified watermark database on the Web. Input and formatting of textual data about images previously digitized (Briquet, Heitz)
LAMOP	Watermark databases integration on the Web: methods to retrieve quickly one watermark or specific groups of watermarks in a huge database -Analysis of motif "bull's head"
LABW	X

Work-package 3 "Paper expertise by image processing"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/28

OEAW	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
16	1	2	1	0	6	20	1	1

Objectives (according to Bernstein proposal)

O 3.1 - Authentication & identification capability

O 3.2 - Multi-feature expertise

Milestones

No Milestones during this report period

Deliverables

No deliverables during this report period

Description of work (according to proposal)

T3.1 / OEAW (VISKOM), **DUT** - Features enhancement

OEAW (VISKOM)	wrote wmscissors for segmenting pages from watermark repertories containing several watermarks into individual images of watermarks (see page ImageProcessing on the TWiki)
DUT	Inventory of available software for automatic identification and matching of both paper structure (laid and chain line features) and watermarks (work in progress)
	Identification of relevant digital resources and input material (X-ray, backlight, rubbings, tracings etc.)
	Enhancement and extension of automatic methods for automatic paper analysis, especially those for chain line enhancement and detection, developed by DUT within the framework of the Rembrandt- and CAAS-projects of NWO and DUT-Leiden University cooperation

T3.2 / OEAW (VISKOM), LAMOP, NIKI, **DUT** - Features measurement

OEAW (VISKOM)	X
LAMOP	X
NIKI	X
DUT	Identification of paper features to be measured
LU	X

T3.3 / **OEAW** (VISKOM), LAMOP, NIKI, DUT, LU - Authentication & identification module

OEAW (VISKOM)	wrote mark2file for obtaining coordinates lists of landmarks in watermarks (see page ImageProcessing on the TWiki)
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	worked on new version of AD751 software for laid lines density measurements
	worked on automatic measurement of image features in hand drawn paper reproductions
LAMOP	Dating written documents by watermarks and imprint of the mould (A new algorithm based on morphometric properties of watermarks and laid lines density)
	An experimental test about random or systematic variations of the imprint of the mould in paper sheets (Fixing details of the procedure -work in progress)
NIKI	Use case for User front-ends
DUT	Starting the development of methods for automatic watermark detection (in cooperation with a MSC student from Spain within the Erasmus-exchange framework)
LU	X

T3.4 / OEAW (VISKOM, KSBM), LABW, **TUG**, DUT, KB, LU - Tools-databases integration

OEAW (VISKOM)	X
OEAW (KSBM)	X
LABW	X
TUG	X
DUT	X
KB	X
LU	X

Work-package 4 "Contextual resources for paper history"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/28

OEAW	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
11	1	1	40	21	1	0	1	2

Objectives (according to Bernstein proposal)

4.1 - Paper-incunabula integration

4.2 - Statistical capability

4.3 - Cartographic visualization

4.4 - Data-references interlinking

Milestones

No milestones in this evaluation periode

Deliverables

D4.1 / m4 - Paper-incunabula cross-linking: Hyperlinks cross-linking WILC and ISTC

→ The British Library Cheshire, Liverpool, the institution that does the technical maintenance of ISTC, work was timetabled for the last 3 weeks of January. The data that were needed from Munich has all been received, and is being tested. After that ILC numbers will be loaded and a link will be established between WILC. As regards the links, Cheshire will work on this in January, and will let know what implications there may be for WILC. (KB)

Description of work (according to proposal)

T4.1 / **KB** - Paper-incunabula integration

KB Visiting the British Library (December 2006) to deliberate about the manner and work to accomplish the ISTC

T4.2 / **OEAW** (VISKOM), **LAMOP** - Numerical & graphical statistics

OEAW (VISKOM) X
LAMOP X

T4.3 / OEAW (VISKOM), **LAMOP** - Historical cartography of paper

OEAW (VISKOM) X
LAMOP X

T4.4 / TUG, **DNB** - Bibliographical referencing of data

TUG	X
DNB	Bibliographical data for expertise and image processing

Result: CERL people will meet Bernstein people in Vienna (KB)

Work-package 5 "Assessment and Evaluation"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/29

OEA	W	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
4		0	0	0	0	14	0	0	1

Objectives (according to Bernstein proposal)

5.1 - Periodical quality monitoring

5.2 - Impact evaluation

Milestones

M5.1 m3 - Periodical evaluation-feed-back cycles

Deliverables

This Bernstein evaluation report for european commission

Description of work (according to proposal)

T5.1 / **NIKI** – Validation

NIKI X

T5.2 / OEA (VSKOM), **NIKI** – Evaluation

OEA (VSKOM) X

LU Evaluation report

NIKI Planning evaluation form

Evaluation report

Work-package 6 "Accessibility, Dissemination and Sustainability"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/29

OEAW	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
15	2	1	1	1	11	2	1	1

Objectives (according to Bernstein proposal)

6.1 – Accessibility

6.2 – Dissemination

6.3 – Sustainability

Milestones

M6.1 / m3 - Project's public and internal website is functional.

Deliverables

D6.1 / m0 (OEAW)- Conference #1: paper studies conference organized by the consortium. Held in Paris

D6.2 / m3 (OEAW) - Graphical image: of software and awareness products

Sept. 30th, 2006 - Project website, TWiki (development site)

Nov. 30th, 2006 - Project presentation (multimedia PowerPoint presentation, poster, folder)

Description of work (according to proposal)

T6.1 / **OEAW (VISKOM, KSBM)**, TUG, LAMOP, DNB, LABW, NIKI, DUT, KB -

Accessibility ([1] Ergonomics, [2] Graphics, [3] Documentation)

OEAW (VISKOM)	X
OEAW (KSBM)	X
TUG	X
LAMOP	X
DNB	Contributions to handbook
LABW	X
NIKI	DB-test as an user
	User guideline image subtraction
DUT	X
KB	X

T6.2 / **OEAW (VISKOM)** - Awareness, dissemination & exploitation ([1] Awareness, [2] Dissemination, [3] Exploitation)

OEAW (VISKOM) completed the “graphical image”

	presentation document of the project (folder and poster)
LABW	Website LABW: http://www.landesarchiv-bw.de/sixcms/detail.php?template=hp_artikel&id=15377&id2=4744&sprache=en preparation of watermarks- and Bernstein exhibition 'Ochsenkopf und Meerjungfrau' in the Central State archive Stuttgart preparation of an exhibition catalogue Presentation about the Bernstein-project and image subtraction method on the 15th meeting of restorers in the Kupferstich-Kabinett Dresden
NIKI	First contacts about collaboration with British Museum London, Koninklijke Museum Brussels and Kunstmuseum Basel about watermarks
DNB	Website DNB: http://www.d-nb.de/wir/projekte/bernstein.htm Newsletter Deutscher Arbeitskreis für Papier (DAP): 210 digital copies, 170 paper copies (prepared November, sent December 2006)
DUT	DUT website on paper research: http://ict.ewi.tudelft.nl/index.php?option=com_sections&id=37&Itemid=97 (Webpage on activities within Bernstein in progress)

T6.3 / **NIKI** – Sustainability ([1] guidelines, [2] database-package)

NIKI	X (this part will be done on the end of Bernstein project)
KB	technical documentation about WILC

Work-package 7 "Project management"

Applicants involved (leader in bold) & labor effort (in months) per applicant:

Start/End date: 0/29

OEAW	LABW	TUG	LAMOP	DNB	NIKI	DUT	KB	LU
30	0	0	0	0	0	0	0	0

Objectives (according to Bernstein proposal)

7.1 - Keep the project running

Milestones

M7.1 / m0 - General meeting / Kick-off-meeting in Paris in sept 2006

Deliverables

D7.1 / m0 - First general meeting of the consortium partners.

Description of work (according to proposal)

T7.1 / **OEAW** (VISKOM) - EU coordination

OEAW (VISKOM)

T7.2 / **OEAW** (VISKOM) - Administrative affairs

OEAW (VISKOM)	organization of the kick-off meeting in Paris and Luxemburg organization of the tutorial (local preparedness in Fabriano, schedule of tutoring personel, program) preparation webpage for WIES (Watermarks of Spanish incunabula – Van Thienen)
LAMOP	organization of the kick-off meeting in Paris
LABW	organization of WP-2 meeting, held in Stuttgart
NIKI	organization of second Bernstein general meeting in Fabriano (contacting the local staff, visiting of local, preparation of tasklist)

T7.3 / **OEAW** (VISKOM) - Financial matters

OEAW (VISKOM) Monney transver to Bernstein partners

T7.4 / **OEAW** (VISKOM) - Intellectual propriety rights (IPR)

OEAW (VISKOM) X

T7.5 / **OEAW** (VISKOM) - Information flow

OEAW (VISKOM)	organization of several workpackage meetings (integration, expertise) administration of the TWiki and project website
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T7.6 / **OEA**W (VISKOM) - Public relations

OEA

W (VISKOM) general proof-reading (folder, poster, lectures, ...)

LECTURES / public meetings

- Oct. 6th, 2006 – public Bernstein meeting in the Austrian Academie of Art, Vienna, Austria (OEAW)
- Oct. 18th, 2006 - public Bernstein meeting with collaborationpartners of TU Graz, public Bernstein meeting in the Library of University of Graz, Graz, Austria (OEAW)
- Nov. 9th, 2006 - EVA Berlin, lecture about Bernstein, Berlin (OEAW)
- Nov. 15th, 2006 - Presentation about the Bernstein-project and image subtraction method on the 15th meeting of restorers in the Kupferstich-Kabinett Dresden (NIKI)
- Nov. 23rd, 2006 - Bernstein-open day (9-12 a.m.) in OEAW, Vienna, (OEAW)
- Nov. 29th, 2006 –Fake and False in Art, Amsterdam (DUT)
- Dec. 11th, 2006 - Wiener Archäographisches Forum (WAF), Generalversammlung, Akademie der Bildenden Künste, Vienna (OEAW)
- Dec. 15th, 2006 Authentication and Dating of Art on Paper, University of Nijmegen (DUT)
- Watermarks/Bernstein exhibition flyers to Heidelberg academy of science and Heidelberg University library (LABW)
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MEETINGS (Bernstein internal)

- Sept. 2006: Bernstein Kick-off meeting, Paris, France (LAMOP)
- Oct. 10th, 2006 – Meeting at KSMB: Haidinger, Leitner, Sinnerl (database structure), Vienna, Austria (OEAW)
- Dec., 14th-15th, 2006: Work-package 2 Meeting, Stuttgart, Germany (LABW)
- Jan. 18th-19th, 2007: Work-package 1 (extra-) meeting in Vienna (OEAW)

PRESS

- Oct., 23rd, 2006 - Press release in 'APA' (OEAW)
- Dec. 2006 – Press release in 'DIE PRESSE' (OEAW)
- Newsletter Deutscher Arbeitskreis für Papier (DAP): 210 digital copies, 170 paper copies (prepared November, sent December 2006) (DNB)
- M.van Staalduinen, J.C.A. van der Lubbe, E. Backer, P. Paclik, "Paper retrieval based on specific paper features: Chain and laid lines", Proceedings of International Workshop on Multimedia Content Representation, Classification and Security, pp. 346-353, September 2006 (DUT)
- 'Das älteste Wasserzeichen stammt von 1271'; Stuttgarter Zeitung; 15.12.2006 (LABW)
- 'Was der Ochsenkopf verrät. Hauptstaatsarchiv zeigt umfangreiche Wasserzeichen-Sammlung'; 4.1.2007 (LABW)
- catalogue of the (watermarks/Bernstein) exhibition 'Ochsenkopf und Meerjungfrau –Wasserzeichen des Mittelalters' (LABW)
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TUTORIALS, WORKSHOPS

- Nov. 27th-28th, 2006 - First EDLproject Workshop on developing the European Digital Library, Austrian National Library, Vienna (OEAW)
- Tutorial at Cambridge University Library, 11. Dec. 2006 (methods of reproduction of paper structure) (NIKI)

EXHIBITIONS

- 'Ochsenkopf und Meerjungfrau –Wasserzeichen des Mittelalters'; exhibition in the Central State Archive of Stuttgart (LABW)

Collaboration agreements with:

- Institute for Iranian Studies, Austrian Academy of Sciences, on the study of the papers of an important medieval manuscript of the Austrian National Library (OEAW)
- Cambridge University, School of Oriental Studies, on support for setting up a database of papers from the Cambridge University Library (OEAW)
- National Library of Egypt, on support for setting up a database of papers from their medieval manuscripts (OEAW)
- CERL people will meet Bernstein people in Vienna for talks about further collaboration (KB)

Subcontracting

New employees

- Sep. 2006: Dr. Vlad Atanasiu (OEAW VISKOM)
- Sep. 2006: Mag. Sandra Hodezek (OEAW VISKOM)
- Sep. 2006: Georg.Dietz M.A. (NIKI)
- Oct. 2006: Mag. Martin Haltrich (OEAW KSBM)
- Oct. 2006 Arianna Meucci (NIKI)
- Oct. 2006 Dr.Carmen Kämmerer (LABW)
- Nov. 2006 Mag. Maria Balk (LABW)
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external

- Subcontract with Robert Richter; programmer for internal adaptation work (new interface, PDF-generator) (NIKI)
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Materials bought

- computer hard drive, RAM memory, USB memory stick, keyboard, graphic tablet (OEAW)
- 1 Notebook Compaq nc8430 (TUG)

Glossary

Institutions

DNB - Die Deutsche Bibliothek, Leipzig, Germany

DUT - Delft University of Technology, Delft, Netherlands

TUG - Institute for Information Systems and Computer Media, Graz, Austria

KB - Koninklijke Bibliotheek, National Library of the Netherlands, The Hague, Netherlands

KSBM - Commission for Paleography and Codicology of Medieval Manuscripts in Austria,
OEAW

LABW - Archives of the State of Baden- Württemberg, Stuttgart, Germany

LAMOP - Laboratory for Occidental Medieval Studies in Paris, Paris, France

LU – Liverpool University

NIKI - Dutch University Institute for Art History Florence, Florence, Italy

OEAW - Austrian Academy of Sciences, Vienna, Austria

VISKOM - Commission for Scientific Visualization, OEAW

Products

ISTC - Incunabula Short Title Catalogue (by BL)

GW - Gesamtkatalog der Wiegendrucke (State Library, Berlin)

Piccard-Online - "Piccard" Watermark Collection (by LABW)

SHREW - Shape retrieval of watermarks software (by NU)

WILC - Watermarks in Incunabula printed in the Low Countries (by KB)

WZMA - Watermarks of the Middle Ages (by OEAW (KSBM))

WMT - Watermark Processing and Database Management Toolkit (by OEAW (VISKOM))

Functionalities

A&I - authentication and identification

Authentication - is an object/individual really what/who it says to be?

Identification - what/who is the object/individual observed? Elements of the paper mould

Chain lines - the less dense of the straight wires visible on the paper mould sieve

Incunabula - documents printed with movable types before 1501 AD

Laid lines - the more dense of the straight wires visible on the paper mould sieve

Paper mould - wooden frame and wire sieve

Paper pulp - vegetal fibers, its density variation appears as 'clouds' when holding a paper
against light

Sieve - Metal web attached to the wooden mould frame, on which the paper pulp is

deposited Watermarks - imprint on a paper serving as factory mark

BERNSTEIN internal comments:

Global evaluation in relation to the project's objectives

- Difficulties in cooperation with IT department of DNB: Bernstein did not get the priority in autumn 2006 (like necessary); IT will start in February 2007 to bring the content of our existing bibliographical database in our central bibliographical database (PICA-ILTIS); this will open access for integration.(DNB)
- There is good communication with partners in the project and general agreement of a strategy for the integration section has been reached. The creation and analysis of use cases has lead to the formulation of specific objectives for the project - these cases are being used to inform the specifics of the technical integration.(LU)
- Emphasis in this period was on WP3, especially with respect to enhancement and extension of already developed paper analysis methods (chain lines, watermarks). The activities here are in line with the time schedule. (DUT)
- In this first stage all kinds of explorations and investigations have been done for WILC and integration. This work will be useful in the course of the project. (KB)

Improvements proposals / Comments

- There is a strong feeling that the participants of the Bernstein project have different opinions in aspect of some main tasks of filigranology. The fact that “watermarks are twins”, the fact of variations of the same watermark, the fact that similar looking watermarks belong to different mould are not respected in a proper way.(DNB)
- There is not enough intention to open the project to other institutions or watermark projects (e.g. no communication with Basle – Dr. Tschudin, M. Kluge – and other initiatives like in USA). (DNB)
- There is not enough intention to open structures to watermarks and papers from 17th and 18th century – otherwise the problem of marks and countermarks would be treated in another way. (DNB)
- It is a pity that the Twiki platform is not in use for transparent and cooperative work.(DNB)
- There is a strong need for the automation of at least some part of the metadata enhancement for the watermarks.
- In the foregoing periods there were some problems with respect to the contact with the other partners, partly due to email and organization problems. These problems are solved now. (DUT)
- Twiki is an efficient communication platform for the project partners (LABW)
-