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The Management of Art Historical Content

An Internet supported concept for presenting and distributing information

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SUMMARY . ABSTRACT

Since the mid-nineties the World Wide Web has become a technological platform for Art Historical Institutions, to publish their teaching and research related information. Almost all Institutes are represented in the WWW with their own homepage, publishing bi-yearly the up to date version of its Commented Lecture Directory. As a rule this occurs under the circumstances of a medial and personal division of content resources (teaching staff, secretary), web-author (HTML-programmer, academic assistant) and the public (students, scientific community). Exactly how far a WWW-based Open-Source infrastructure can incorporate a concept, which intends to irradiate this division, is currently being tested at the Art Historical Institute at the Humboldt University, Berlin.

Art History and Media Integration

In view of the general propagation of information and communication technologies, we are experiencing a transformation in the usage of media assisted work- and teaching forms. Dealing with the digitalization and cross-linkage of text and picture collections increasingly determines the image of Art Historical teaching and researching activities. This means, for the present situation of research and teaching in the subject Art History, that the subject matter of Art Historical work is becoming less often real objects, but much more in the form of their medial representation.

New concepts With the introduction of the information and communication technologies' fulfilled integration of altered communication and presentation concepts amongst classical teaching forms, such as seminars and lectures, presents this predominantly pictorial discipline a challenge not to be underestimated. Parallel to the opening of the subject Art History, over the past decade, to new impulses on the scientific-theoretic level, in the context of a forming pictorial science and consequentially an interdisciplinary subject. New genres such as Film, Photography and computer aided Art, Art of Virtual Realities are being incorporated into the subject's repertoire. However an adequate portrayal of these genres using the media condition standard to Art History, particularly the double slide projection, cannot be guaranteed. New forms and aspects of visualization and structuring of knowledge are necessary. Even from this point in time it can be clearly seen that the Internet will play a central role.

Educational-Political Preconditions

On the basis of a BMBF (Federal Ministry for Education and Research) brochure for the discussion on the future teach- and learning forms printed in 2000, often paraphrased as "virtual campus", "distance learning" or "I(nformations) T(echnology) in education" we can, from a

educational-politics standpoint, solidify the assumptions described above with a concrete background. Within the frame of the stated, imminent changes of educational content and methods of acquiring knowledge, the BMBF sees three challenges in the forefront facing Universities. Besides an

- Extension of IT infrastructures within Universities
- The development of new teach- and learning concepts
- The development of content software for University teaching.

Ubiquitous computing A factual omnipresence of net-based functions, the BMBF forecasts the emerging of “new learning methods at University” as well as the emergence of information technology into everyday University lives. Ideally, students should „[...] have the possibility to dial in to the network from any point on campus and thus access their learning and teaching software”. The trial high-speed connections, which at the moment are in their prototype stage, (*next generation Internet*), make it possible for teaching staff and students to work with dozens of output devices, any time, anywhere. There are, at the moment, no concepts prepared for Art History which have methodological-didactic emphasis on the availability of *online* course material. This will indeed change with time and doesn't represent the current situation. The traditional form is the attendance teaching and will remain in the foreseeable future the predominant method of passing on knowledge in Art History.

The conception and provision of subject-specific online material with respective approach to the certification of a proper measure of educational-political, personal resources and technological “upgrade” on the side of the institutes taking part in such a program (preparation of course materials, servicing the technical infrastructure, etc.).

Perspectives at the Department of Art History at the Humboldt University, Berlin

The WWW project *Interactive Homepage* at the Art History department of the Humboldt University (chair Prof. Dr. Bredekamp) has adopted the problem of “medial disruption” within the information distribution context of Art Historical departments to support attendance teaching. The objective being the development of a “WWW-framework”, which allows inexperienced team members, staff and students, the possibility to independently produce digital documentation, distribute it and swap it with associated partners, without help and independent of time and place.

Dynamic vs. static The Institutes homepage no longer present itself as conventional “static” HTML pages in terms of a print publication. They can be seen as dynamically generated information units, which in different contexts and use associations of the webpage, are user defined and can take over specific functions. At the end of the development is a solution, which, because the project has been implemented as part of an Open-Source infrastructure, can be passed on, free of licensing costs, to other interested institutes and easily adapted to their differing conditions (Layout, Corporate Identity). On the one hand, functional central modules are developed for the needs of the Art History Department, on the other existing applications are seamlessly integrated to insure what becomes an “Interactive” homepage.

Aspects of the Project

Medial, geographic or time disruptions in the transfer and editing of documents (analog and digital), can be adequately demonstrated using the example of the production of the *Commented Lecture Directory*, for the printed version and for the WWW edition. Normally we have here

a strict separation in the production processes: The Secretarial office is responsible for a printed version of the Commented Lecture Directory. Firstly all the original contributions, the academic event information from the staff, which arrives per e-mail or on a disk, must be collected. Then edited using a classical text editing application, corrected and arranged into a unified document and sent under the title Commented Lecture Directory “to the printers” (the institutes own Laser printer or to a printing press). Finally the printed version has to be distributed, or for a moderate price, sold to the students. The Commented Lecture Directory then exists materially as a completed paper unit, which can no longer be changed. Author (teaching staff), Editorial (Secretary), Public (students, scientific community) on the one side and the media (paper, electronic documents) on the other, remaining hermetically separated [fig. 1].

In order to additionally produce an online version of the same document, a further medial or editorial disruption in the flow of information takes place. Secretarial staff hands the print template version over to somebody, who because of technical qualifications (HTML programming) is capable of integrating the existing digital texts in the predetermined position within the structure of the Institutes homepage. This all occurs within a different time span and in a separate creation and publication process method (editing the online Commented Lecture Directory in a HTML- or text editor, FTP “upload” the finished HTML pages to the Institutes- or the universities PC center’s WWW- Server).

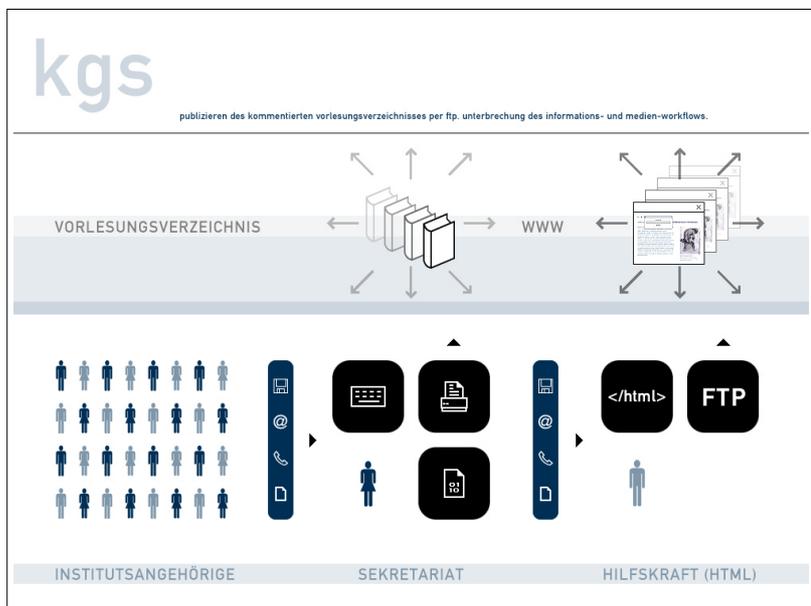


fig. 1
The separation of creation processes which is typical of conventional web publishing at departments of Art History: Specialized workspaces and interrupted media workflows.

Conventional methods The disadvantage of such a conventional solution is the unnecessary burden on time and staff resources, which demands a time and geographic related maintenance of two medial systems, for the asynchrony of print and online information.

For example in the case of time or room change for a lecture, the HTML skilled assistant must be contacted and then the information available on the homepage doesn't correlate with the information on the Institutes “notice board”: which, amongst others, becomes a legal problem. Medial and editorial disruptions are characteristic of an Institutes homepage, which is based on static information updates.

These practical everyday considerations were well thought-out in the conception phase of the new online

content at the department of Art History; right from the beginning the consideration was to install a system, which was consequently based on the dynamic generation of documents [fig. 2].

Single source publishing Instead of publishing, or having published, singular static documents for print and online versions, we now have joint logical components, out of which both print and online documents can be reassembled (title, text body, signature, event number, etc.), put directly by the author into a relational databank. This is no longer done with a classical text editor, but using a client side interface displayed in the WWW browser, which is WYSIWYG-capable (WYSIWYG = „What you see is what you get“). Special HTML knowledge for generating web pages, which made the previously mentioned assistant essential, is in this system no longer necessary. The creation and editing, because it is completely web based, can occur from any place where a computer with an Internet connection is available; the physical presence of

WYSIWYG

„What you see is what you get“

Paradigm of interactive document creation. Editing and visualizing of document content at the same time in a unique production environment.

the author at the Institute is no longer necessary.

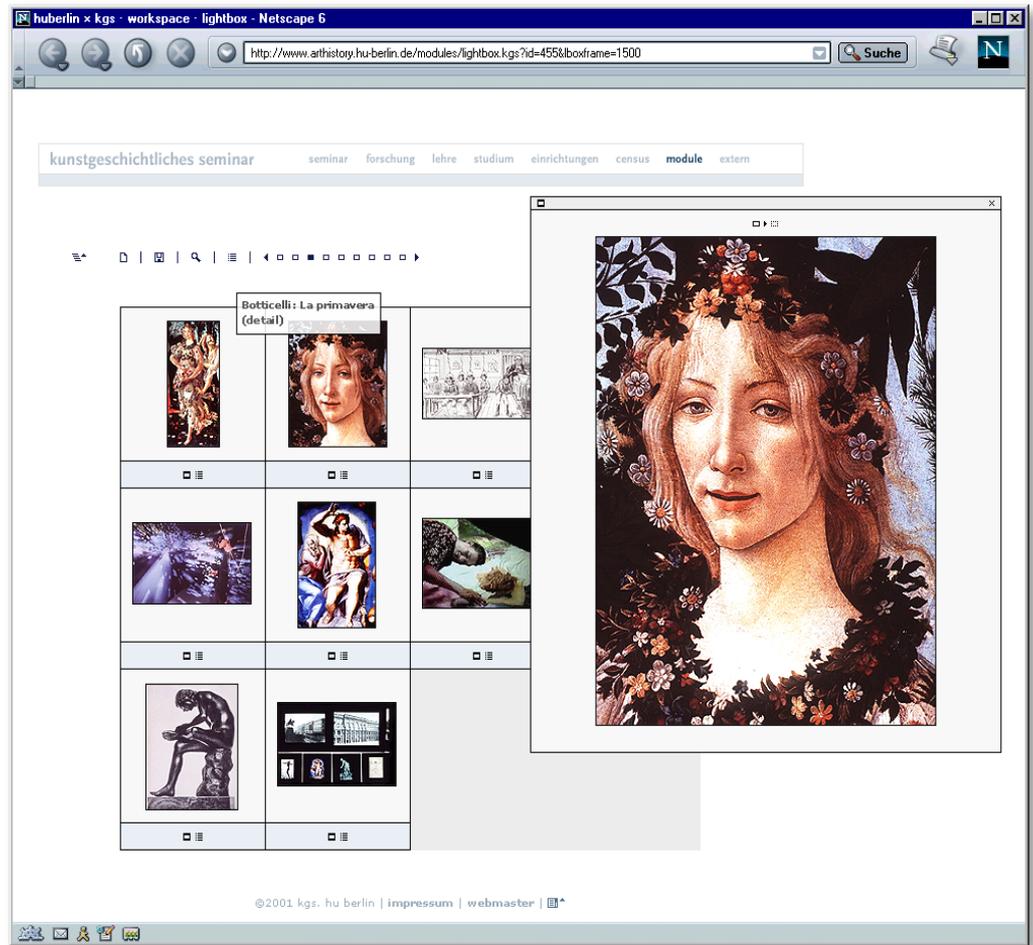


fig. 2

The lightbox module: Image presentation online offered to students and teachers before or during courses.

Logical object components The end result is no longer small compact self-contained document types but logical object “components”, which become the content and form of a document, which is dynamically assembled as a result of a databank query, for example by a visitor to the online content [fig. 3].

Paradigm shift At this point the crucial shift in paradigm is complete, with consequences for the whole process of on-and offline publishing within the framework of the Art History department: Instead of creating conventional text, authors in this scenario “feed” a “web-based system for the management of digital content (WCMS = „Web based Content Management System“), an online-databank. The logical information units are created, visualized and assembled into transitory online documents, per request, when needed. Print versions are now part of the exact same workflow: they are created per mouse click, on specific request and can generate an output of various formats, either for the scientific community (LaTeX, RTF, MIF) or those which play a role in the print sector (PDF, Postscript) or in a format especially for the output on mobile appliances (WAP capable cell phones, Personal Digital Assistants). Because these are already online media and their communication protocols are usually available, these type of generated information units can easily be distributed over the WWW, for example in the form of a Newsletter using the e-mail protocol or as a downloadable file for storage on the hard disk of your own computer.

Additionally the Commented Lecture Directory illustrates many aspects of the Interactive WWW-information’s system in an exemplary fashion: Along with an *archiving* of event data

(databank with the possibility of an SQL query) results in a time and staff reducing optimization of the creation process by simultaneously producing the print version, which can be distributed as deliverable download. Other Institutions can be offered the chance to participate by

using an XML file; they can acquire the content block under the terms of a Content Syndicate and implement the data into their own layout. Authors are awarded a high degree of responsibility within such a workflow. The teaching staff's personal homepages are now, in the sense of the publication process, personal work of the author and can, with the help of all available technical possibilities, be suitably used for scientific self-presentations.

Students are enabled to present their fellow students online with thesis papers, presentations, seminar protocols and picture files as event preparation-previews. The offline seminar's tight time schedule can be used optimally in this manner, for discussion, for the collective preparation of seminar specific content, etc. and consequently enriching the classical seminar structure.

In addition Analog functions take over the arranged time bound real time communication (chat) as well as the, from time independent "posting" of comments (newsgroups or bulletin-boards).

They allow the possibility for extra-curricular discussion. And finally, after intensive work with this system, scenarios will open up to what is termed in contemporary discussions as *Knowledge Management*. The reaching of an added value through the selective evaluation of information sources, which is in terms of "best practice" (still) as everyday knowledge characterized.

Central Modules and Functions

The paradigm shift from a static, document orientated to an interactive, information orientated position of the new concept can be best illustrated by presenting a few function modules:

News and Newsletter Publishing short notices, on the entrance page presents a similar situation to that of an editorial publication. Independent authors publish, by themselves, news articles, "self motivated" (room or consultation hours changes) or tips relating to events happening outside of the Institute. Articles can be activated on specific dates using a WYSIWYG interface and if needed, sent to a list of subscribed e-mail recipients using a newsletter module.

Personal homepages The module "personal homepage" guarantees the aspect of individually presenting employee relevant research results, publications and supplementary information by teaching staff [fig. 4]. Using a personalized (password protected) access and choosing template based format guides, allows the creation and editing of an own homepage with a WYSIWYG editor. Picture files can be added using a file choosing dialog box, uploaded to the server, automatically and correctly positioned.

Study-Supplementary Materials With the help of the *Filemanager*, an up and download mechanism, teaching staff and students can make documents relevant to academic events (thesis papers, protocols) available for download to other website visitors. As part of the staffs pre-planning or as study supplementary resource during the semester, new possibilities emerge al-

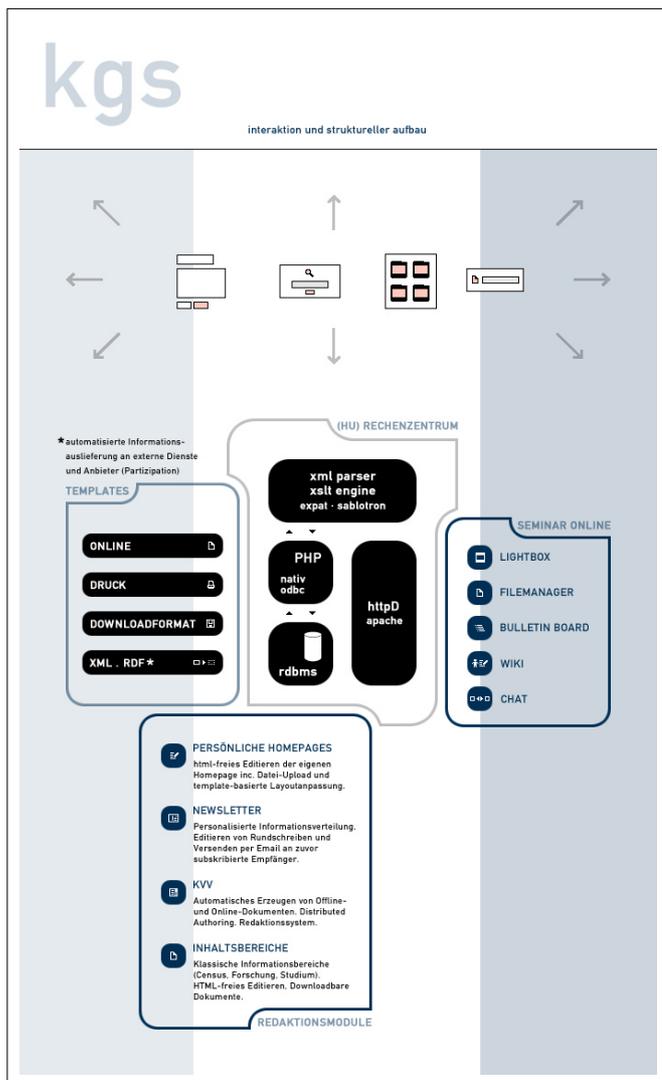


fig. 3
Modular concept of the interactive homepage: Reusable components (templates) and extensible publishing modules.

lowing useful digital extensions of traditional analog systems, such as the handset in the library. A virtual *lightbox* allows a preview of the next seminar's slideshow [see fig. 2].

Creating Documents The cooperative creation of HTML documents is made possible using the *Wiki*-system. This service is primarily catering for students of the Art History department. It can be useful when formulating joint presentations or essays. Further options include a bulletin board and a chat system.



fig 4
module personal homepage:

Publishing system based on web templates. Enables scientists to edit their personal homepages. Editor with text formatting options in wysiwyg mode. Another view (not presented here) offers web forms for the manipulation of structured data (like address information or office hours). A workflow module organizes access rights.

As the abstraction aspect, the separation of program logic and layout, was recognized in the concept phase as having tremendous importance, the editing of the in- and output routines occur predominantly template-based and on a XML basis, which is parsed using the XML-Parser Expat. The system (Resource Description Format) was used in particular areas, in order to allow data participation either XSLT (*Sablotron*) or CSS is responsible for the display and transformation von XML. The complete system behind the event accompanying rubric is the, in university circles often used, in Smalltalk developed *Wiki*-Server has been extended for the purpose of enabling the cooperative production of seminar documents.

The client side in- and output interface uses JavaScript and DHTML functions. A browser specific separation, to which the relevant interfaces are automatically optimized, occurs automatically at an earlier stage. WWW browsers from version 4.0 are supported (Microsoft Internet Explorer, Netscape).

The server side system has been kept deliberately minimal. Every University's computer center should be capable of combining the relevant components from *Apache*-WWW-Server, *PHP* und *MySQL*.

Conclusion

Considering the challenge, which the introduction and usage of digital pictorial worlds and the new technical communication forms presents the academic subject Art History, their are to factors of the utmost importance: Firstly there has to be a tendency for visualizing knowledge (i.e.

in the form of data mining, visualization of databank queries, muster recognition, mechanical seeing, etc); secondly the digital revolution should be valued as a revolution of communications- and teaching forms.

Such is the influence of such factors on the representation and presentation methods of Art Historical content. The manner in which teaching staff and students interact could, to benefit an optimization of the presence teaching, be fundamentally changed.

RESEARCH EMPHASIS AT THE ART HISTORY DEPARTMENT

The department of Art History at the Humboldt University has been working, parallel to the classical themes of the subject, on a pictorial science research approach, which includes a digital Art History. In both teaching and research, useful possibilities for the extensive integration of the medium computer are being explored and implemented: In research projects such as *CENSUS* (Census of Antique Works of Art and Architecture Known in the Renaissance), the picture databank *IMAGO*, the DFG-project *Art History and Media Theory of Virtual Reality* as well as the BMBF supported project- *PROMETHEUS*-the distributed digital picture archive for research and teaching. In addition to these various digital research databanks and projects relating to new media in education, the WWW project *Interactive Homepage* aims, with its user-friendly functionality, at encouraging a widespread usage of information and communication technologies to support the attendance teaching and is a component in the overall project of the digital Art History at the Humboldt University.

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Ingeborg Reichle Born 1970, studied Art History, Philosophy, Sociology, Archeology in Freiberg i. Br., London und Hamburg. Since 1998 active as scientific assistant at Prof. Dr. Horst Bredekamp's chair at the Art History department of the Humboldt University, Berlin. Intended Doctorate on the "Gender metamorphoses of Cyberspace". Further interests: art and new media, Cyberfeminism, Pictorial Science and Gender Research, new approaches on integrating WWW based Information Systems in the daily activity of teaching and research in Art Historical Institutions (Interactive Homepages). Since April 2001 project manager of the Berlin section of *PROMETHEUS*, a nationwide project network for developing new net based teaching and learning concepts (BMBF supported for three years)..

Thomas Lackner Born 1963, Studied Art History, Philosophy and Pedagogic in Bochum. Since

1995 involved in various WWW projects whose emphasis has been on Science and Education. In 1996 he organized the first congress *Art History Students in the Internet* together with Ingeborg Reichle, Dorothee Wiethoff and Christoph Mertens. In 1997 he initiated *Kunstgeschichte.de - Organization for Art and Communication*. Since 1998 active as an IT-Consultant.

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