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ICOM-CC Education and Training Working Group
Interim Meeting

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Title: **Internet-based training courses for conservators**

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ABSTRACT:
The Hornemann Institute of the University of Applied Sciences and Arts Hildesheim/Holzminden/Göttingen is developing online continuing education courses for persons who are dedicated to cultural heritage preservation. As this target group faces rapid changes in their profession, there is a great demand for career accompanying further training.

With internet based courses, the Hornemann Institute opens up new perspectives for continuing professional training of conservation specialists: Subject matters have been put into multi-media form, i.e., texts are enlivened by images, videos, animated graphics, checklists, etc. You can check your personal progress with the help of several small tests. Glossaries, bibliographical references and the integration of relevant Internet resources supplement the teaching materials. Tutors will assist you whenever you encounter technical or content-related difficulties. Presented in addition to the media-didactic, technical and graphic aspects of the online course are also first evaluations by full-time students as well as by working distance students.

MAIN BODY OF THE TEXT:

Introduction

There is a great need for continuing education without career interruption. We must all meet the challenge of further education and training. Hitherto continuing education opportunities for conservators and restorers have been limited to expensive and time-consuming workshops and congresses. Furthermore, not only will there be a change in content, but in access to learning as well. The demand is for flexible teaching and learning. By way of its internet-based training courses, the Hornemann Institute opens up new perspectives for doing so. The Hornemann Institute has been working as a scientific service centre in the field of cultural heritage preservation since 1998.

The concept of the centre is new insofar as the institute dedicates itself to international knowledge transfer for the continuing training of conservation specialists via new media.

Target groups

Before joining the University of Applied Sciences and Arts in September 2003, the Hornemann Institute developed the courses concentrated on distance students, thus experts with quite varied educational backgrounds. Since then the focus was broadened to include a second target group: the full-time students from the University.

Now the courses are used by distance learners (for in-job or off-job further education) and in parallel by full-time students. As all courses are drawn up by the teaching staff of the university, they are implemented in the full-time study program at the authors' discretion. Some instructors offer the courses to supplement current lectures, others as follow-up study. And others make use of the courses as preliminary preparation to ensure that all the full-time students possess the same basic knowledge when beginning full-time study. This then allows more time for the practical part, the workshop part, of the study.

The continuing education program is open to anyone concerned with the conservation of cultural heritage on a full time or part time basis. The target group is not limited to any profession or to Germany. Anyone interested in furthering his/her education academically and scientifically will be accepted. All that is required is internet access. At certain times, the on-line modules under the tutelage of authors and tutors are accessible to a number of students simultaneously. The Hornemann Institute is responsible for the organization and the administration. Distance students will be granted a Hornemann Institute certificate upon successful completion of the program and passing a final on-line examination.
To enhance the quality and efficiency of the course, the Hornemann Institute will, in some cases, organize workshops the students can attend. These workshops will offer the students an opportunity to discuss course contents, ask questions, discuss practical application and exchange experience with experts.

The advantage of being integrated in the university is that it ensures the continuance of the institute and its activities. In addition to this, the university's teaching staff is a guarantee for the high standard of our courses. Ultimately, we expect the courses to one day be given European university accreditation.

The one disadvantage of being incorporated in the university, however, is that the original international founding concept of 1998 has had to take a back seat as not all the courses can be offered on an international level without accurate technical translation. This has to be executed by an adequate expert and needs additional funding. Nonetheless, we are convinced that we will come to terms with these problems. The good ratings given the on-line courses by previous full-time students and distance students in evaluations are encouraging.

Thus, we are seeking partners to help in translating the courses. Presently, we are in discussions with the German Commission for UNESCO, which assumed patronage to the institute in 1999.

Course organisation
In the content, the Hornemann Institute lies emphasis on practice. Illustrations, ie. photographs, drawings and film sequences, combined with interactive elements are the means to support and motivate the learner.

An example
The institute's course "Microbic Infestation of Objects of Art and Cultural Heritage" conducted by Barbara Hentschel, graduated conservator, and Prof. Dr. Karin Petersen, teaching microbiology.

This course is composed of three modules (see Fig. 1). The first one is an introduction into microbiology. It allows students with no corresponding background to learn the basics of microbiology and thus to be able to follow the course. This is of particular importance for non-university implementation, as microbiology in the conservation of cultural objects has not been pursued much outside the university.

The second module, which is smaller, is more practice oriented: it explains the different sample-taking techniques and which types of sample material are suited for which analyses and tests.

The third module contains various methods of detection and analyses of microorganisms that pose a threat to cultural objects. The user learns not only easy to use analyses techniques but also very specific and modern specialist ones.

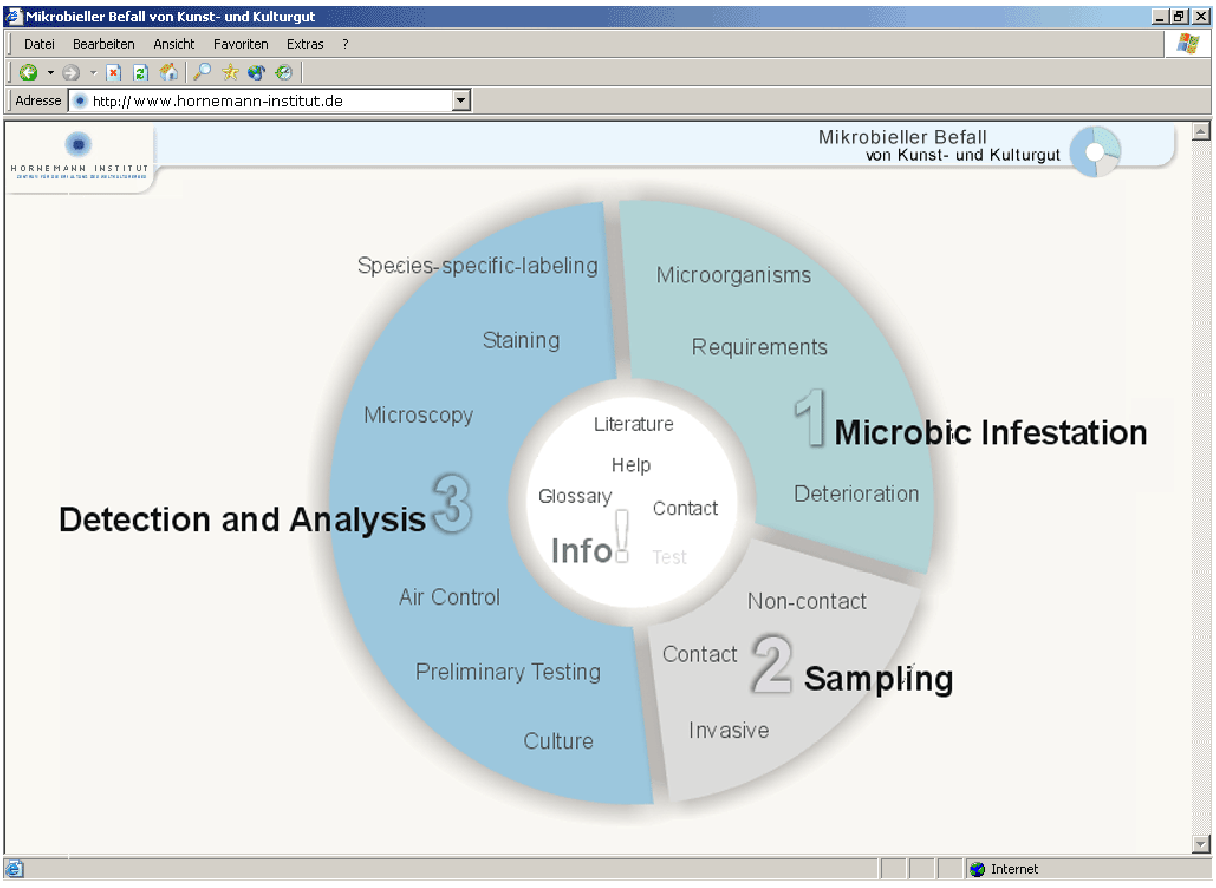

Fig. 1: The main navigation element, the so-called “Base” (here: the course “Microbic Infestation”)

User guidance
Regardless of the scope or content, the set up of the courses is always the same. With implementation of a central navigation element, the so-called “Base” is visible from all the course sites, so the user never loses orientation (Fig. 1 and 2).

In different colors and large enough for good legibility, the main items of the outline, the so-called modules list the chapters with (abbreviated) titles in a clockwise order we suggest the learners to follow, and most previous students have done so. The base does not show sub-classes, the sub-chapters. Switching between modules is possible only via the Base. For the sake of easy orientation, we had to sacrifice direct linking between modules.

The center of the Base gathers the resources relating to the entire course: A help-button with explanatory information on the use of the course and technical issues; the bibliography, the glossary of terms not explained within the text and the contact addresses.

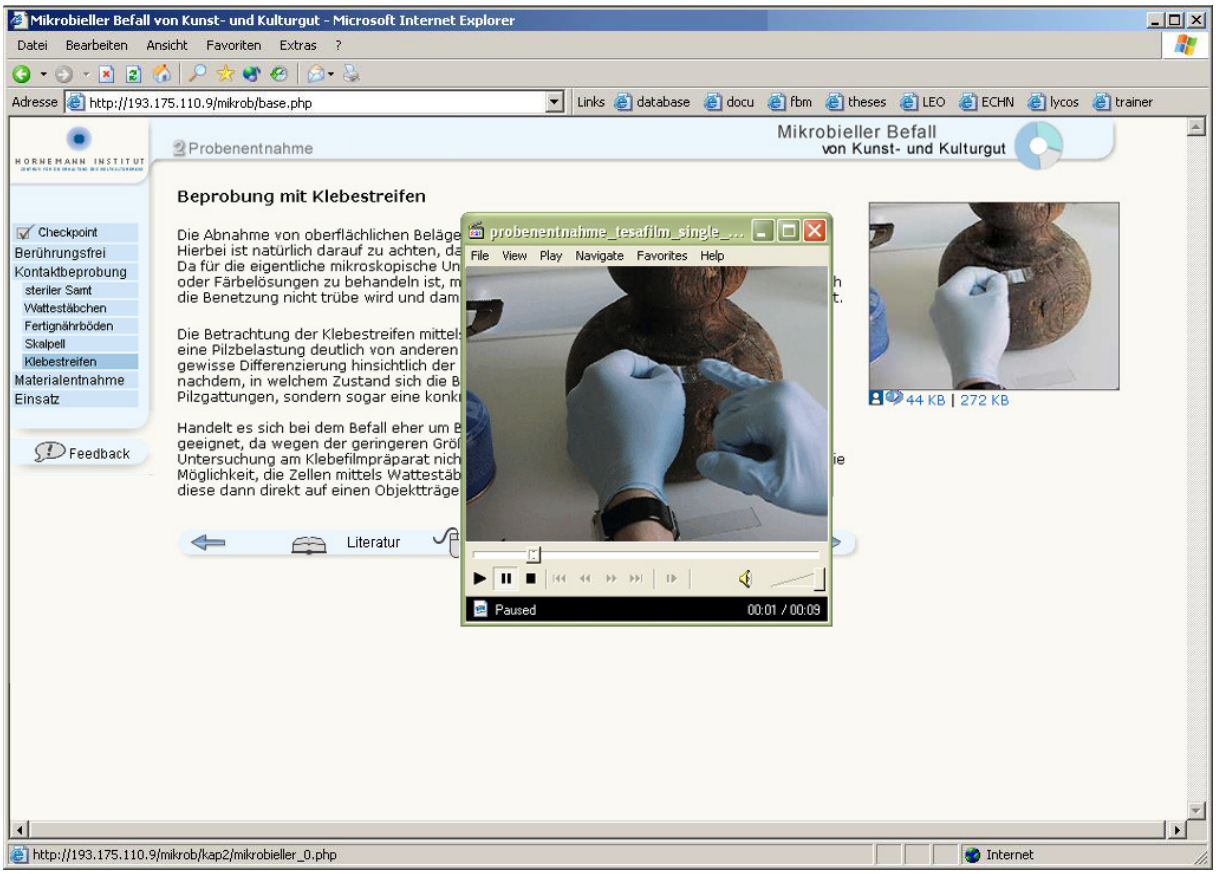

Fig. 2 A page from the course “Microbic Infestation…” with a short movie about taking samples.

Page layout
Each page follows a fixed layout or set up:

The bar at the top indicates the module the user has chosen, it also displays an Icon of the Base for selecting other modules. At the left edge of the page is the navigation bar with chapters and subchapters and at the bottom a bar with the available pages of the current chapter or subchapter. The arrows can be used to move to the next (or previous) page.

The text part in the center is the main part of each page. It contains neither footnotes nor end notes. All additional information is 'hidden' in separate windows, that pop up by clicking on the respective button located at the right side or in the bottom bar:

- Bibliographic references and Internet links relevant to the current page
- References to other modules or chapters within the course
- Excursions on related topics, too detailed to be included in the main text

Terms that are included in the glossary are highlighted in the text body by blue coloured letters. A click opens a window displaying the explanation.

The right side of the page is reserved for illustrative photographs, drawings and video sequences. To reduce downloading times, these multimedial sections are offered in a thumbnail view in the section on the right beside the text.

Check tests
The course is intended as a self-study course to the largest possible extend. "Checkpoints" permit monitoring learning progress and are therefore highly motivating. The types of tests are: matching, filling in gaps and multiple choice. Correction follows immediately and automatically. More extensive essay tests are sent to the institute via e-mail. The authors set the length and allowed time for these tests.

Communication
All questions from distance students to the contact addresses are directed to the Hornemann Institute, where the ones concerning technical issues or how to use the course are answered directly by the tutors. Questions concerning the content are directed to the author. The full-time students are solving problems in direct contact within the lectures of the respective author.

Upon request, the Hornemann Institute can install an internet forum that can be accessed from the course site. The authors and tutors could decide whether the discussion will be public or limited to course participants. Should the authors so desire, the institute will also provide a chat platform for intense exchange among the participants of the course.

Technology
To facilitate the content management all the courses were set up by the staff at the Hornemann Institut using the software REDDOT©. In future this will also allow authors to work autonomous with the templates developed by the institute. The courses are designed to be run with a monitor screen resolution of 1024 x 768 pixels.

In Future additional offers using new media technology are fundamentally possible upon agreement with the institute. However, the Hornemann Institute generally rules out any fee-charging offers as well as offers with advertisements.

Evaluation
Full-time students and distance students were asked to evaluate the courses. The response of both target groups was quite favorable. This might not be surprising in the case of the distance students as they chose the internet as their medium. The very positive response from the full-time students came a bit unexpectedly. Indeed, meanwhile an increasing number of teaching staff of the University of Applied Siences and Arts have come to see the possibilities of using on-line courses for teaching the principles of a course in order to be able to spend more time for hands-on learning in workshops.

Synopsis of Advantages and Disadvantages
Advantages:
- *Up-to-date study material*
  In contrast to other study material, on-line course contents can be updated in the case of need by the authors. Thusthe learners never risk working with obsolete outdated material as may happen with printed media.
- *High motivation*
  The didactic versatility and interactivity of the continued education courses and the ability to adapt the study material to own individual needs is very motivating for both full-time students and working distance students. Learning is flexible and adaptable: the courses permit individualized learning at the learner's own speed and to the depth the learner desires, following the learners own scedule. Moreover, motivating is the fact that the learner can check his/her progress him/herself.
- *Saves Time and Costs*
  Users are able to access the course contents whenever and wherever they want. There are no travel costs and no time lost on the job.
- *Visualization and medialization*
  Graphs and dynamic animation make difficult to understand contents more accessible. Short video sequences (approx. 10 sec.) of practical examples make clearer what is relevant. However, not everything that is possible is didactically useful. The multimedial elements must contribute to learning.
- *Versatile possibilities of communication*
  Internet-based communication elements such as e-mail, chatrooms, discussion forums allow the instructors and users to exchange experiences and work on tasks together.

Disadvantages
Printed media are better suited for long texts than the new media – no one wants to read a thousand pages on a computer screen. Good study courses focus on where established media show their limitations. The average time a learner spends at the computer is forty-five minutes. He should be able to grapple with a subject in this time. So we ask our authors to provide precise and concise material.

Prospects
Presently, there are four courses available: The above-mentioned "Microbiology" course, a two-part package "Salt Damage to Cultural Objects", a course "Historic Polysaccharide Binding Media" and a short course on "Scientific Work" (for full-time

students only). Another course called “Restoration and Conservation Theories and Methods From the Mid-20th Century to the Present” is in preparation.

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