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### **Abstract**

This report describes the objectives of the Digital Library Competence Center (D-Lib Center): to provide specific user communities with access to advanced Digital Library test-beds, technologies, services, expertise and knowledge. The complete documentation has been made available to the public through the D-Lib Center web site (<http://dlibcenter.iei.pi.cnr.it/>).

## Table of Contents

I.	Introduction .....	3
Ia	Objectives.....	3
Ib.	Demonstration Environments.....	3
Ic.	Course Activity .....	4
Id.	Test-beds .....	4
II.	Activities .....	6
WP 1	Self-Publishing.....	6
WP2	Open Access to DLs.....	8
WP3	Digital Library Based Collaboration .....	10
WP4	Web Journal Preservation .....	11
WP4bis	Geospatial Digital Libraries .....	13
WP5	Audio/Video Digital Library Environment .....	15
WP6	Evaluation .....	17
WP2	<i>Open Access to Digital Libraries Environment</i> .....	17
WP4	<i>Web Journal Preservation Environment</i> .....	18
WP4bis	<i>Geospatial Digital Library Environment</i> .....	18
WP5	<i>Audio/Video Digital Library Environment</i> .....	18
WP 7	Dissemination.....	20
WP 8 – Management	.....	22

## **I. Introduction**

### **Ia. Objectives**

The objectives of the Digital Library Competence Center (D-Lib Center) is to provide specific user communities with access to advanced digital library test-beds, technologies, services, expertise, and knowledge in order to:

- Facilitate open access to digital libraries;
- Facilitate moving from the current centralized, discrete publishing model, to a distributed, continuous, self-publishing model;
- Demonstrate new ways in which DLs might enable collaboration;
- Facilitate the transition to permanent Web publishing;
- Facilitate the publishing of geo-spatial digital content for structured search and retrieval over the web.
- Improve the productivity and cost effectiveness of producing and using digital audiovisual archives.

### **Ib. Demonstration Environments**

In order to achieve its objectives the D-Lib Center established six demonstration environments:

- **Self Publishing Demonstration Environment**  
To make an advanced operational digital library supporting improved models of scientific information dissemination and access available to scholarly communities .
- **Digital Library Based Collaboration Demonstration Environment**  
To make an advanced Collaborative Work environment based on digital library resources available to scholarly communities .
- **Open Access to Digital Libraries Demonstration Environment**  
To make an advanced, open access service environment available to user communities to assist them in interacting with digital libraries.
- **Web Journal Preservation Demonstration Environment**  
To provide an advanced environment to preserve access to scientific journals published on the Web.
- **Audio/Video Digital Library Demonstration Environment**  
To provide an advanced meta-data editing environment integrated within a A/V DL to train archivists in (semi-) automatic indexing and searching of audiovisual material.

- Geospatial Digital Library Demonstration Environment  
To provide an advanced Geospatial digital library environment for the purpose of enabling participants to design and develop geo-spatial digital library applications.

Each Demonstration Environment was composed of:

- 6 Workstations
- a Test-bed
- Teaching staff
- Technical staff
- Documentation

The Demonstration Environments were located within the "Networked Multimedia Information Systems" Lab of the "Istituto di Scienza e Tecnologia dell'Informazione" of the Italian National Research Council.

### **Ic. Course Activity**

Each Course was composed of the following activities:

Tutorial session. Each Course was initiated by a tutorial which aimed at establishing the general context of the specific topic being treated.

Demo session. Each Course was based on a test-bed. The tutorial session was followed by a demo of the Course test-bed.

Training session. The participants had the opportunity to be trained on the specific technology of the Course by using the test-bed.

Case studies session. One or more case studies per Course were performed as an exercise in developing an application of the technology taught during the Course.

Questionnaire. A questionnaire was prepared and distributed to the participants asking them to fill it in for the purpose of assessing the effectiveness of the Course.

Evaluation. The questionnaires were collected and an analysis of their content was performed.

The Courses lasted two days and were addressed to librarians, archivists, scholars and technicians and offered direct experience of advanced digital library test-beds.

### **Id. Test-beds**

The following test-beds were used for the purpose of training participants in the digital library technologies:

- The ERCIM Technical Reference Digital Library (ETRDL)  
ETRDL is an advanced DL service which assists scholars in rapidly accessing, managing and disseminating the results of their research activities.

- The SCHOLNET System  
Scholnet is a software toolkit that can be used for easy creation of a digital library. It consists of a number of inter-operating services that implement the functionality of an advanced digital library.

- The CYCLADES System  
Cyclades is an open collaborative virtual archive service supporting both individual scholars and scholarly communities in carrying out their work.

- The LOCKSS System

LOCKSS is a Web content preservation system which provides librarians with a cheap and easy way of running Web caches.

- The ECHO System

ECHO is an audio/video digital library system. It provides a metadata editor based on a formal metadata model which supports semi-automatic indexing of audiovisual material.

- The Alexandria Digital Library (ADL) System

ADL is a digital library system which allows users to search using standard library semantic concepts but it also allows users to search for both geospatial and georeferenced information.

## II. Activities

This section describes the work done during the two years of activity within each work package.

### WP 1 Self-Publishing

This work-package had the aim to present digital library technologies which facilitate moving from the current centralised, discrete publishing model, to a distributed, continuous, self-publishing model.

The D-Lib Center established operated and managed a self-publishing environment. In particular, it made available to library and scholar communities an advanced operational digital library which supports highly improved models of scientific information dissemination and access, i.e., the ERCIM Technical Reference Digital Library (ETRDL) that contains the scientific production (technical reports) of the members of the European Research Consortium for Informatics and Applied Mathematics (ERCIM).

Courses on the Self-Publishing were organised and held at the D-Lib Center laboratory (ISTI-CNR, Pisa, Italy) on the following dates:

10-11 April 2002

22-23 April 2002

8-9 May 2002

6-7 June 2002.

Teaching Staff:

Maria Bruna Baldacci, ISTI - CNR

Stefania Biagioni, ISTI - CNR

Technical Staff:

Carlo Carlesi, ISTI - CNR

The course provided:

A) Two days activities at the D-Lib Center, organized as follows:

- \* Introduction to digital libraries
- \* ETRDL Demos
- \* Training in the following ETRDL services:
  - \* Submission of documents
  - \* DL administration
  - \* Search/browse
  - \* Access to electronic documents
  - \* Document download/print
- \* Case studies: definition of requirements by interest groups

B) Distance access to the ETRDL System was provided: <http://albatros.iei.pi.cnr.it>.

The following course documentation (PDF) was distributed to the participants and is available on the D-Lib Center web site (<http://dlibcenter.iei.pi.cnr.it/en/index.html>) :

ETRDL Search and Browse Service : User Guide

ETRDL Administration Service : User Guide

ETRDL Submit Service : User Guide

Five case studies were performed:

A digital library for marine biology

A digital library for biomedicine and oncology

A digital library for physicians

A digital Library for Doctoral and Master Theses

A digital library for Course notes

## **WP2            Open Access to DLs**

This work-package had the aim to present digital library technologies which facilitate open access to digital libraries. In particular, the aim of the course was twofold:

- to illustrate the possibilities provided by “new generation” digital libraries, in terms of new types of content and new functionality
- to teach how to create and maintain a (new generation) digital library.

The D-Lib Center established, operated and managed an open access to digital libraries environment. In particular, it made available the Scholnet digital library system (<http://www.ercim.org/scholnet>), developed within a project funded by the IST Programme of the European Commission (5<sup>th</sup> FP). Scholnet is an open digital library system that can be customised to meet the specific needs of diverse user communities. In its basic version, Scholnet provides services to support:

- acquisition, description, archiving, search, access, and dissemination of multimedia, multilingual, structured digital documents
- virtual organization of the information space
- handling of annotations on documents
- multilingual access
- personalised information dissemination

These features render it capable of supporting new forms of remote scholarly communication. In particular, they enable the dissemination of not only conference papers, technical reports, project deliverables, but also annotated seminars, lectures, demos, etc. Scholnet was used as a testbed to demonstrate the concepts introduced during the course on the Open Access to DLs Environment.

Courses on open access to digital libraries were organised and held at the D-Lib Center laboratory on the following dates:

19-20 February 2003

15-16 May 2003

Teaching Staff:

Donatella Castelli, ISTI - CNR

Pasquale Pagano, ISTI - CNR

Manuele Simi, ISTI-CNR

Technical Staff:

Carlo Carlesi, ISTI - CNR

In addition, the Course will be replicated in November 2003 for the University of Roma 3, which expressed its interest in learning how to use the OpenDL developed by the Scholnet project for its internal use.

The structure of the course was the following:

- Tutorial (part 1) – Methodology for building a digital library
- Introduction to Scholnet and demo



- Training on how to use a Scholnet digital library
- Tutorial (part 2)- Methodology for digital library set-up and maintenance
- Case studies

The following documentation was printed and distributed to all participants:

1. A hard paper copy of the slides. The slides are also available for download on the DLIB Center web site.
2. A list of papers on the system
3. A Questionnaire

The course provided two days activities at the D-Lib Center, organized as follows:

- Introduction to digital libraries
- What is a "second generation digital library"?
- A second generation DL: Scholnet
- Introduction to its functionality
- DoMDL document model
- Annotation model
- Scholnet demo
- Experimentation of Scholnet
- OpenDLib demo
- More info about Scholnet: digital library service system architecture
- How to set up a Scholnet DL
- Comparison with other DL systems
- Discussion and Questionnaire

### **WP3 Digital Library Based Collaboration**

This work-package had the aim to present digital library technologies which enable collaboration between digital library patrons.

The D-Lib Center established, operated and managed a digital library based collaboration environment. This environment is built on top of the Open Archive Initiative (OAI) which develops and promotes interoperability standards that aim to facilitate the efficient dissemination of content. In particular, the D-Lib Center made available the Cyclades digital library system (<http://www.ercim.org/cyclades>), developed within a project funded by the IST Programme of the European Commission (5<sup>th</sup> FP). The CYCLADES Service Environment provides two kinds of OAI compliant functionality: (i) functionality which supports a community/group of scholars while using the OA content as a basis for collaborative work (community functionality), and (ii) functionality which supports a single user/scholar when interacting with the OA environment (user functionality).

A course on open access to digital libraries was organised and will be held at the D-Lib Center laboratory on the following date:

20-21 November 2003

#### Teaching Staff:

Umberto Straccia, ISTI - CNR

Leonardo Candela, ISTI - CNR

#### Technical Staff:

Carlo Carlesi, ISTI - CNR

The course will provide two days activities at the D-Lib Center, organized as follows:

- Introduction to digital libraries
- Introduction to the Cyclades digital library system
- The Mediator Service;
- The Search&Browse Service;
- The Access Service;
- The Collection Service;
- The Personalisation Service;
- The Recommendation Service and
- The Collaborative Work Service
- Cyclades demo
- Experimentation with the Cyclades system

## **WP4            Web Journal Preservation**

This work-package had the aim to present digital library technologies which facilitate the transition to permanent Web publishing.

The D-Lib Center established, operated and managed a Web journal preservation environment. In particular, the D-Lib Center has been cooperating with the LOCKSS team and made available the LOCKSS system developed by the LOCKSS program at the Stanford University (US). LOCKSS is a tool designed for libraries to ensure their community's continued access to web-published scientific journals. LOCKSS allows libraries to take custody of the material to which they subscribe, in the same way they do for paper, and to preserve it. By preserving it they ensure that, for their community, links and searches continue to resolve to the published material even if it is no longer available from the publisher. Think of it as the digital equivalent of stacks where an authoritative copy of material is always available rather than the digital equivalent of an archive.

LOCKSS allows libraries to run web caches for specific journals. These caches collect content as it is published and are never flushed. They co-operate in a peer-to-peer network to detect and repair damaged or missing pages. The caches run on generic PC hardware using open-source software and require almost no skilled administration, making the cost of preserving a journal manageable.

A course on Web Journal Preservation was organised and held at the D-Lib Center laboratory on the following date:

4-5 March 2003

### Teaching Staff

Victoria Ann Reich, Director LOCKSS Program, Stanford University, USA

David Rosenthal, Chief Scientist, LOCKSS Program, Stanford University, USA

### Technical Staff:

Carlo Carlesi, ISTI-CNR

Stefania Biagioni, ISTI-CNR

The course on the Web Journal Preservation presented the strategy, tactics, and technology of the LOCKSS Program (<http://lockss.stanford.edu>). Being the LOCKSS software open-source and freely available for download and use the course provided a philosophical and practical introduction to the techniques and methods for: (1) building and providing access to local e-journals collections; (2) leveraging an international technical and social international preservation and archiving system. Besides, the two day-course provided also a senior level introduction to strategic business and management issues.

The course provided two days activities at the D-Lib Center, organized as follows:

Big Picture

Introductions

Course Structure

Background

Concept of LOCKSS

History & Status of LOCKSS

Demos  
GCM  
Cache  
Technical Details:  
Collect  
Preserve  
Disseminate  
Demo  
Voting  
Question & Answer  
Collection  
Development  
Management  
Practical LOCKSS  
Platform  
Practical LOCKSS  
Daemon & Content  
Plug-ins  
Where do we go from here?  
Question & Answer  
Questionnaire & Evaluation

## **WP4bis Geospatial Digital Libraries**

Following the reviewers' suggestion, right after the first review meeting which took place in Rome, on 20 September 2002, the D-Lib Center took contact with the Alexandria project team (<http://alexandria.ucsb.edu/>) and thus integrated its activity by adding a work-package to those already existing. The workpackage was titled WP4bis-Geospatial Digital Libraries. This work-package had the aim to present digital library technologies which enable the design, development, instalment and use of geo-spatial digital libraries.

The D-Lib Center established, operated and managed a geospatial digital library environment. In particular, it made available the Alexandria Digital Library system (ADL) developed by the University of California, Santa Barbara in the context of the Digital Library Initiative funded by the US National Science Foundation (NSF).

A course on geospatial digital libraries was organised and held at the D-Lib Center laboratory on the following date:

19-20 June 2003

Teaching Staff:

Dr. Rudolf W. Nortrott, University of California, Santa Barbara (US)

Dr. Gregory A. Janée, University of California, Santa Barbara (US)

Technical Staff:

Carlo Carlesi, ISTI - CNR

The course was based on a software developed by the Alexandria Digital Library Project (ADL: <http://webclient.alexandria.ucsb.edu/>), which facilitates the creation and management of distributed digital library collections. ADL collections can operate stand-alone for use by individual users, or optionally and seamlessly switch into a distributed mode for web-based information sharing and publication.

Geospatial collections are typically heterogeneous in content and can span items as diverse as maps, historical photographs, field data, remotely sensed images or archaeological data. The ADL software allows structured search and retrieval on such heterogeneous data collections, combining the simplicity of Dublin Core with the specificity of a full Boolean query language.

The aim of the course was to familiarize participants with the overall technology and with the specific procedures and software involved in setting up a stand-alone or distributed ADL node.

As a case study, the teaching staff focused on a collection of USGS Digital Raster Graphics (DRG) maps. However, the technology presented was much more general and it could be applied to collections of any georeferenced library objects and, further, to collections of any objects to which a structured discovery technique can be applied. Based on Open Source components and open protocol standards (including Java, Tomcat, XML, JDBC, SQL), the ADL software is freely available and can be installed on all common software and hardware platforms.

The activities of the course were split in two days. On the first day, the system and its functionalities were introduced and the teachers showed how to install and use it. On

the second day, it was first taught how to add collections to the ADL mode and were discussed the opportunities for federated collections of distributed ADL nodes.

The course was structured as follows:

- Introduction and background to georeferencing in digital libraries
- Demonstration of existing digital library nodes based on Alexandria Digital Library (ADL) technology
- Overall ADL architecture
- Introduction to ADL metadata
- Installing an ADL node and software configuration (Windows or Unix)
- Installing an ADL software and configuration (continued)
- Adding a collection to the ADL
- Adding a collection to the ADL continued
- Discussion of future ADL capabilities
- Discussion and brainstorming on opportunities for federated collections of distributed ADL nodes
- wrap-up session

The agenda, the tutorial, the user guide, and a copy of the slides were distributed to the participants in the course. All these documents are also available for download on the D-Lib Center web site.

A questionnaire was given to participants in order to investigate the effectiveness of the Course and the usability of the ADL system.

## **WP5 Audio/Video Digital Library Environment**

The aim of this workpackage was to provide a theoretical and experimental background on the techniques and the methodologies for the organization, creation, and management of an Audio/Video digital library.

The D-Lib Center established, operated and managed an audio/video digital library environment. In particular, it made available the ECHO digital library system (<http://www.>), developed within a project funded by the IST Programme of the European Commission (5<sup>th</sup> FP).

The [ECHO system](#), used as a testbed during the course, provides a digital library service for historical films. It allows to index and retrieve the audio video material by using speech transcripts, video features automatically extracted from the video and metadata manually associated by the user. Metadata are described by using an audio-video metadata model based on the IFLA-FRBR standard.

The frontier of Digital Libraries consists in the possibility of managing multimedia documents other than pure textual information. In particular, due to the large amount of Audio/Video material that is available in a digital form and due to the importance of this material for many aspects - economic, environmental, health, cultural, social, etc. - of everyday life, the management of Audio/Video Digital Libraries is becoming of crucial importance.

Courses on audio/video digital libraries were and are organised and held at the D-Lib Center laboratory on the following dates:

20-21 January 2003

27-28 November 2003

### Teaching Staff:

Pasquale Savino, ISTI- CNR

Giuseppe Amato, ISTI- CNR

Claudio Gennaro, ISTI-CNR

### Technical Staff:

Carlo Carlesi, ISTI - CNR

The Course provided two days activities organized as follows:

Audio/Video Digital Libraries: An introduction

How to design and build an Audio/Video Digital Library

Examples on the use of the Audio/Video Digital Library

Manual Indexing of A/V documents

The ECHO Meta-data model for A/V documents

The ECHO Meta-data Editor

Training on the Indexing of A/V documents

Training on the Usage of the Digital Library

The hw/sw platform composed of an ECHO server plus 5 workstations running the ECHO client was set up for the course, as well as the creation of the test video library

composed of 50 hours of video selected among the completed ECHO collection of A/V documentaries.

The documentation distributed at the course and available for download is composed of: 1) Copy of the slides used during the course. 2) User manual of the ECHO metadata editor. 3) User manual of the ECHO retrieval module.



## **WP6 Evaluation**

The evaluation of the impact of the demonstrated technologies was carried out through the definition, compilation and analysis of specific questionnaires for each available testbed. These questionnaires were customized for each user community involved in the training sessions. However, all questionnaires requested that participants assess interest and difficulty of the course content by giving each module one of the following values: high, medium, low and requested to give advice to improve the course.

The results of the evaluation studies were studied in order to be able to derive guidelines for improving working practices and suggest appropriate taking-up of the new DL technologies. In particular, the extent to which these activities contribute to change current working practices and adopt new DL technologies in traditional application environments were measured. Results collected from the questionnaires distributed at the courses are being elaborated into a homogenous deliverable.

### **WP1 *Self Publishing Environment***

Four courses on Self Publishing were held with a total of 41 participants – mostly librarians.

The questionnaire designed to investigate the participants' assessment of interest and difficulty of the course modules and documentation was filled in by twenty participants - mostly participants in the last two courses.

The results of the questionnaire can be summarized as follows:

- The course was considered as highly interesting by approximately 90% of the questionnaire responses. With respect to the difficulty, 52% of the respondents assessed the course as being of medium difficulty, whereas 43% considered it easy. No course module was assessed with a low value. Participants stated that the ETRDL functions were easily understood and learned during the course, even without the use of manuals.
- About 90% of the respondents found the documentation complete, although approximately 18% regretted it as written in English.
- With respect to the applicability, about 90% of the responses were affirmative: ETRDL was considered to be of general applicability.
- One negative comment regarded incompleteness of information regarding installation and maintenance costs.

### **WP2 *Open Access to Digital Libraries Environment***

The two courses on “Open Access” were attended by a total of 29 persons but only 16 filled in the questionnaire designed to evaluate the course.

Participants' responses can be summarized as follows:

- All respondents [80.80% librarians at different level of responsibility, 72.22% coming from Universities/Research Institutions] judged the course “overall valuable”.
- The introductory modules were considered to be of high interest by 77.29% of participants. 40.38% of the responses assessed the course as being of medium difficulty, whereas 59.61% considered it easy. The SCHOLNET Demos were considered to be of high interest by 58.% of respondents and of medium interest by 42%. With respect to difficulty, the course was considered of medium difficulty by 63.18%. Instructions given to create a Digital Library

were considered to be of high interest by 86.66% of respondents. This module was considered of low difficulty by 46.15%. Some participants suggested more practical experimentation and more PC's for practical work.

- All responses indicated SCHOLNET as applicable in the participants' work environment, mainly for managing and sharing unpublished and/or unfinished documents.

#### **WP4            *Web Journal Preservation Environment***

The course on "LOCKSS - Permanent access to On Line Journals" was attended by a total of 20 persons but the related questionnaire was filled in by 11 participants : 10 librarians and 1 student. The course was given, and the questionnaire was prepared, by the LOCKSS Organization.

Responses to the questionnaire can be summarized as follows:

- The overall evaluation of the interest of the course was positive; one participant found the discussion on LOCKSS « philosophical reason » very interesting but not completely convincing.
- The introductory course module was considered to be of high interest by 90.90% of respondents whereas the interest value progressively decreases in the successive, more technical modules. For example, the module regarding LOCKSS Technical Details was considered of high interest by 72.72%, the LOCKSS Demo and Collection Management modules by 54.54% and the Practical LOCKSS by 45.45%. With respect to difficulty, the Introductory module was considered of low difficulty by 72.72%, whereas the other modules were generally considered of medium difficulty.
- Most comments judged the Practical LOCKS modules too technical for librarians; very positive evaluation came, instead, by two technicians who attended the course but did not fill in the questionnaire. Comments on form of exposition reflected participants' difficulty in understanding technical matter. The organisation was considered "pretty good".

#### **WP4bis            *Geospatial Digital Library Environment***

The course on the Alexandria Digital Library software was attended by professionals of very different types – information engineers, system administrators, software developers, GIS specialists, etc – with a total of 25 persons . The course was given, and the questionnaire was prepared, by ADL specialists.

The results of the questionnaires [18 respondents, 61% coming from University or Research Centers] can be summarized as follows:

- 100% respondents found the course valuable overall. Interest in the course modules was given the following values: Introduction: High 88%. ADL Architecture: High 64.70%, Medium 35.29%. Lab sessions: High 42.86%, Medium 50%. The Architecture module was the only one to be considered rather difficult (High Difficulty 5.88%, Medium 70.59%, Low 23.52%) whereas the other two modules were given values of medium-low difficulty as follows: Introduction: 47%-53%. Lab sessions: 43%-57%.
- 72.22% considered ADL software as "potentially applicable" to their work environment, 16.66% as "applicable", but two respondents suggested to add capabilities to manage vector data.

- Suggestions given to improve the course let us think that the course content could better be spanned in more than two days. Organization was considered very good.

**WP5                    *Audio/Video Digital Library Environment***

The course was attended by 7 participants, mainly interested in research or reference on historical film material. All participants filled in the questionnaire, even though not all its parts.

The responses to the questionnaire can be summarized as follows:

- Interest in both Theoretical lessons on Audio/Video D.L.'s and the Training Module on the ECHO system were given the following values: High 57.14%, Medium 42.85%. Interest in Training on the Metadata Editor was evaluated as follows: High 66.66%, Medium 33.33%. With respect to difficulty, no module was considered to be of high difficulty. Theoretical lessons were considered to be of low difficulty by 42.85% of participants, of medium difficulty by 57.14%. The other two modules were considered to be of medium difficulty by 85.71% and 100% participants, respectively.
- All participants judged ECHO as applicable in the field they are interested in; most participants made positive comments on usability of Retrieval and Browsing functions and on Metadata Editor (although minor drawbacks were found in the Retrieval & Browsing). Most questions on satisfaction received 100% of positive answers..

## WP 7      **Dissemination**

Many dissemination activities were carried out during the life of the D-Lib Center project. First of all the project Web site was designed and installed at <http://dlibcenter.iei.pi.cnr.it/en/index.html>

The site displays:

1. a description of the D-Lib Center and its activity,
2. a description and the agenda of the courses,
3. the calendar of the courses and the form for the student registration,
4. the page of the project's reports with restricted access,
5. some useful information for the hotel booking,
6. a map of the city and the CNR location,
7. the name and email of the main contact persons.

A Fact Sheet summing up the project's goals and objectives was realized and circulated among interested communities; besides, calls for participation in the courses were posted to different mailing lists:

Asociacion Andaluza de Bibliotecarios (AAB), Spain

Association des bibliothécaires français, France

Associação Portuguesa de Bibliotecários, Arquivistas e Documentalistas, Portugal

BAILER (British Association for Information and Library Education and Research)

UK

BBS, Association des Bibliothèques et Bibliothécaires Suisses, Switzerland

Bibliothekarforbundet, Germany

Collegi Oficial de Bibliotecaris-Documentalistes de Catalunya, Spain-Catalogna

VDB (Verein Deutscher Bibliothekare, Germany

IFLA (International Federation of Library Associations), The Netherlands

VÖB (Vereinigung österreichischer Bibliothekarinnen und Bibliothekare) Austria

VVBAD (Vlaamse Vereniging voor Bibliotheek-, Archief- en Documentatiewezen)

Belgium

ANAI (Associazione nazionale archivistica italiana), Italy

FIAF (Fédération Internationale des Archives du Film = La Federación Internacional

de Archivos Filmicos = The International Federation of Film Archives), Belgium

International Television Association, Media Communications Association-International, USA

Diario Digital, Portugal

Journal of Digital Information, UK

D-Lib Magazine, USA

AIB-CUR (Associazione Italiana Biblioteche), Italy

ICCU Istituto Italiano per il Catalogo Unico- Roma, Italy

Besides, calls for participation were also posted to the ECDL conference, the Delos NoE and the Open Archives Forum mailing lists

The activities of the project were presented at different events, both at a national and international level. Below follows a lists.

A first meeting with the Staff of the High School "Istituto Tecnico Commerciale e Liceo Scientifico – Antonio Pesenti" was held in order to plan the presentation of the activity of the D-Lib Center and the ETRDL system during the annual initiative dedicated to the Libraries "Strade di Carta", 13-13 April 2002, Cascina, Pisa, Italy.

The activity of the center was introduced at a meeting with the managerial staff of the Archivio di Stato at the head office in Rome on the 14<sup>th</sup> of May 2002. Also the applicability of the ETRDL system in the historical archives was discussed at the meeting in Rome.

A short workshop on the topic of the Open Archive for a free scientific communication, was organised by the Italian Library Association and held at the Library of Mathematics, Computer Science and Physics (AIB) of the University of Pisa, with the aim to disseminate the activity of the D-lib Competence Center, ETRDL system and the Scholnet Project. The title of the event was: Open Archives per una comunicazione scientifica "free", 12 June 2002, Pisa, Italy.

Besides, the D-Lib Center activity was presented at the seminar: I Periodici in Biblioteca nell'epoca della Cooperazione Digitale organised by and held at the AIB on the 28<sup>th</sup> of October 2002

Again, the activity of the D-Lib Center was presented and explained at the second Giornata Italiana on "Biblioteche Digitali: Ricerca e Sviluppo in Italia" ("Digital Libraries: Research and Development in Italy") which was held in Rome on the 31<sup>st</sup> of October 2001.

The activity of the D-Lib Center was also presented at the following conferences: ECDL2002 conference held in Rome, Italy, on 16-18 September 2002.

Bibliocom 2002 – 49<sup>th</sup> Conference of the Italian Library Association, Roma 15-17 October 2002

"Open Archives" and new aspects of the scientific and didactic on line publishing, Bologna, 7 November 2002, Faculty of Political Sciences, University of Bologna, Italy.

A brief article was published in the section R&D and Technology Transfer of ERCIM News, n. 50, July 2002. It introduces the activity of the Center.

A tutorial on the Audio/Video Digital Library Environment, titled "[Audio/Video Digital Libraries: designing, searching for documents, and generating Metadata](http://www.rice.edu/jcdl03/tutorials.html#AVDL)" (<http://www.rice.edu/jcdl03/tutorials.html#AVDL>), was given at the JCDL conference which took place in Houston, US, on 27-31 May 2003 and a second tutorial on the same environment was given at the ECDL2003 Conference ([www.ecdl2003.org](http://www.ecdl2003.org)), which took place in Trondheim, Norway, on August 17-21, by Giuseppe Amato, Pasquale Savino and Claudio Gennaro.

The aim of both tutorials, addressed to Librarians, Archivists, Computer Scientist in the audio/video processing field was to provide a theoretical and experimental background on the techniques and the methodologies for the organization, creation, and management of an Audio/Video Digital Library (A/V DL). The course illustrated the techniques and the methodologies to design, build and maintain an A/V DL. Extensive examples of existing systems and approaches was given. In particular, as a running example it was illustrated the ECHO system, which provides a DL service for historical films and allows to index and retrieve the A/V material by using speech transcripts, video features automatically extracted from the video and metadata manually associated by the user. Metadata are described by using an A/V metadata model based on the IFLA-FRBR standard.

## **WP 8 – Management**

Management documents and reporting forms were produced and delivered to the Commission all through the D-Lic Center life cycle.

Calls for participation in the courses were written and disseminated;

The following Managerial Structure was adopted:

D-Lib Director: Costantino Thanos (ISTI -CNR);  
D-Lib Co-Director: Stefania Biagioni (ISTI-CNR)  
Assistant to the Director: Francesca Borri (ISTI-CNR)

D-Lib Instructors for the course organised on the Self-Publishing Environment:

Maria Bruna Baldacci, Stefania Biagioni (ISTI -CNR);  
D-Lib Technician: Carlo Carlesi (ISTI -CNR).

D-Lib Instructors for the course organised on Open access to digital libraries  
Donatella Castelli and Pasquale Pagano (ISTI -CNR);  
D-Lib Technician: Carlo Carlesi (ISTI -CNR).

D-Lib Instructors for the course organised on Film Digital Library Environment

Giuseppe Amato, Claudio Gennaro, Pasquale Savino (ISTI -CNR);  
D-Lib Technician: Carlo Carlesi (ISTI -CNR).

D-Lib Instructors for the course organised on Permanent access on electronic journal

Vicky Reich, David Rosenthal (Stanford University - USA);  
D-Lib Technician: Stefania Biagioni, Carlo Carlesi (ISTI -CNR).

D-Lib Instructors for the course organised on Building a Geospatial Digital Library

Rudolph Nortrott, University of California, Santa Barbara, US.  
Greg Janèe, University of California, Santa Barbara, US.  
D-Lib Technician: Stefania Biagioni, Carlo Carlesi (ISTI -CNR).

D-Lib Instructors for the course organised on Digital Library Based Collaboration

Umberto Straccia (ISTI-CNR)  
D-Lib Technician: Stefania Biagioni, Carlo Carlesi, (ISTI -CNR).