

PREMIER REFERENCE SOURCE

E-PUBLISHING AND DIGITAL LIBRARIES

Legal and Organizational Issues



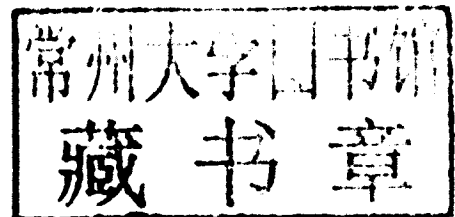
Ioannis Iglezakis, Tatiana-Eleni Synodinou & Sarantos Kapidakis

E-Publishing and Digital Libraries: Legal and Organizational Issues

Ioannis Iglezakis
Aristotle University of Thessaloniki, Greece

Tatiana-Eleni Synodinou
University of Cyprus, Cyprus

Sarantos Kapidakis
Ionian University, Greece



Information Science
REFERENCE

INFORMATION SCIENCE REFERENCE

Hershey • New York

Director of Editorial Content: Kristin Klinger
Director of Book Publications: Julia Mosemann
Acquisitions Editor: Lindsay Johnston
Development Editor: Christine Bufton
Publishing Assistant: Jamie Snavelly
Typesetter: Michael Brehm
Production Editor: Jamie Snavelly
Cover Design: Lisa Tosheff

Published in the United States of America by
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: <http://www.igi-global.com>

Copyright © 2011 by IGI Global. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher. Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark.

Library of Congress Cataloging-in-Publication Data

E-publishing and digital libraries : legal and organizational issues / Ioannis Iglezakis, Tatiana-Eleni Synodinou, and Sarantos Kapidakis, editors.
p. cm.

Includes bibliographical references and index.

Summary: "In this book, a comprehensive review of various legal issues concerning digital libraries is presented"--Provided by publisher.

ISBN 978-1-60960-031-0 -- ISBN 978-1-60960-033-4 (ebook) 1. Digital libraries. 2. Libraries and electronic publishing. 3. Copyright--Electronic information resources. 4. Digital preservation. I. Synodinou, Tatiana-Helene. II. Kapidakis, Sarantos. III. Iglezakis, Ioannis, 1965-
ZA4080.E19 2011
025.00285--dc22

2010017210

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

Editorial Advisory Board

Heiki Pisuke, *University of Tartu, Estonia & Council of the European Union*

Fernando Galindo, *University of Zaragoza, Spain*

Lilian Mitrou, *University of Aegean, Greece*

Maria Bottis, *Ionian University, Greece*

Nikolaos Intzessiloglou, *Aristotle University of Thessaloniki, Greece*

List of Reviewers

Ioannis Iglezakis, *Aristotle University of Thessaloniki, Greece*

Sarantos Kapidakis, *Ionian University, Greece*

Tatiana Synodinou, *University of Cyprus, Cyprus*

Preface

INTRODUCTION

Every day more digital devices and procedures replace traditional ones, and digital repositories and digital libraries have replaced traditional collections of information. People can search for and access articles, photos, videos, opinions, advice, and many more objects of interest, from digital repositories and libraries.

More than 93% of the content that is produced today is digital, without even counting the content that is undergoing digitization. And this is not limited to text documents, such as articles and encyclopedias, but includes most photos, videos, music recording, and even content for which there is no traditional equivalent, such as interactive or multimedia applications.

Digital libraries aim to collect, manage and preserve electronic expressions of knowledge on any subject, type or format. Although much of that information is also found in the Web, digital libraries have some additional properties, that makes them even more useful: the information is more structured, persistent, provides more searching options and a procedure for quality control and acquisition, making it more trustworthy and valid. The general trend is to make the next generation of the web more like a digital library.

Digital libraries provide content and services on this content, and possibly on similar content found on other, remote, repositories. The completeness of the content is important to the value of the digital library, and advanced services on it can augment its value even further. The adoption of open standards is also needed for real successful distributed digital libraries.

Many of today's activities benefit from digital libraries and the web, ranging from searching for existing information to online research and training. Common motives for creating digital libraries could be the adoption of technology, the attraction of new funding and wider visibility of the information to users all around the world. They help to reduce the differences among libraries, classes, laboratories, research and teaching, providing equal opportunities to all users, even remote ones.

The significance of the digital libraries is recognized and many national and international projects and initiatives exist, that try to aggregate as much content as possible under a one-stop-search interface. Europeana is an example of one of the most recent big such efforts.

The creation and the operation of the digital libraries are not without problems, of many kinds, such as philosophical, social, technical and legal.

THE LEGAL CHALLENGES IN DIGITAL LIBRARIES

A digital library is more than the digital version of the traditional library. It is a new kind of an organization that makes use of Internet technology in order to provide access of the public to a wide range of information services (Atkins, 1998). While a traditional library consists of books and other print material, a digital library is not its equivalent. That being said, it must be borne in mind that a digital library is more than a collection of digitized books and collections, but consists of various electronic resources and associated technical capabilities that enable the creation, search and use of information (Borgman et al., 1996).

The special features of digital libraries differentiate the legal regime of digital libraries from the legal status of traditional libraries. While in traditional libraries the majority of legal issues concern traditional in-library uses of the library's contents, such the application of the public lending right, the creation of analogue copies of rare materials and the photocopying of books and other documents, in digital libraries the legal problematic is centred on the digitalization of contents and on the distance access to on-line library services. The multifunctional character of the digital libraries and the diversity of their contents raise a bundle of legal issues related to the creation of the library and its dissemination to the public.

Digital libraries are informational collections which are based on the collection and the elaboration of various pre-existing contents, such as data, works of mind and other elements. Consequently, the creation of a digital library presupposes the respect of the legal norms which govern the pre-existing materials which are included to the database. Thus, the legal treatment of the digital libraries comprises unavoidably the combined application of various legal branches, such as copyright law, personal data protection, privacy law, libel law, tort law or private international law. Moreover, the digital library constitutes an informational entity which presents high cultural and economic value. The research of the appropriate legal regime for the protection of the library against free-riders and in general against unauthorised uses is a delicate task which has undoubtedly an international dimension.

Digital libraries are viewed as databases, due to the fact that they present a database structure (Borgman, 1999). Insofar, it is appropriate to consider their protection in accordance with the legal regime for databases. The issue that should be addressed is whether digital collections fall within the definition of a database under EU Directive 96/9/EC and thus, the structure of digital libraries should be scrutinized. The fact that under EU law databases are afforded a two tier protection makes necessary to study the requirements and limitations of the database rights. Particular regard should be made to the situation in USA, where there is no specific regime for the protection of databases (Synodinou, 2010).

Research in digital libraries has grown rapidly in the recent years, as digital libraries are considered extremely important for the dissemination of knowledge and the preservation of cultural and scientific heritage (Korres & Kokotsaki, 2010). Moreover, the practice of digital libraries is gaining enormous importance, as more and more content is made online available by means of digital collections and big digital library projects are undertaken. A massive undertaking, for example, is the Google's Library Project, which aims at digitizing the content of several research libraries and providing an online catalogue, through which users can search (Bottis, 2007). In Europe, the goal of creating a European Digital Library was realized on 20 November 2008, when Europeana.eu went live. Several legal issues are arising on the occasion of these projects, which are not easy to tackle.

It is noteworthy that a High Level Expert Group identified certain legal issues with regard to the European Digital Library project, which deserve attention, and those are the issues of digital preservation, orphan works, out-of-print works and other implementation issues (High Level Expert Group,

2007). It is stressed out in the Interim Report that exceptions in EU Member States laws allow libraries and other institutions to make one single copy for preservation purposes, but this exception could be proved insufficient. With regard to “orphan works”, i.e. works whose rightholders are not identifiable or where they are identifiable, they are not locatable; apparently, the use of such works presents big problems, since the consent of their author cannot be obtained. This deficit is on the detriment not only of the stakeholders, but also of the public, i.e., the perspective users of such works, which are not able to ask for permission to use them (M.-D. Papadopoulou, 2010). Similar problems arise with regard to works that are out-of-print or out of commercial distribution. Although these works are still protected by copyright, it is difficult to ask for permission to digitize and make them available through the digital library (Koskinen-Olsson, 2009). The High Level Expert Group made certain recommendations regarding all these issues in its final report (High Level Expert Group, 2009), but it remains to be seen whether it is feasible to tackle such tricky issues.

A more thorny issue arise with regard to Google’s project, which provoked a great fierce controversy. Google’s attempt to digitize books under copyright without the permission of authors or rightholders is considered a violation of copyright law, while it claims that this act is covered under the fair use clause of copyright (Prasad & Agarwala, 2008). Undoubtedly, digitization of copyright works raises copyright issues, as this act may conflict with the economic and moral rights of authors (Lucas-Schloetter, 2010, A. Papadopoulou, 2010). On the other hand, there are exceptions for libraries and it is questionable whether libraries are entitled to make copies of their collections (Lucas-Schloetter, 2010).

It becomes apparent that it is crucial to stress the need to strike a fair balance between protection and access to information (Geiger, 2010). Furthermore, it is essential to realize the boundaries confronting digital libraries with regard to protection of personal data (Iglezakis, 2010), but also as far as the liability of providers in relation to an open library (Tsingos, 2010). Applicable law issues with regard to liability for copyright infringement and other offenses and jurisdictional issues are also of major importance (Hadjimichail, 2010).

In this book, a comprehensive review of the legal issues concerning digital libraries is presented by the authors of the relevant chapters. Future research will identify eventually other important topics, as reality poses always new, attention-grabbing questions that should be dealt with.

ORGANIZATION OF THE BOOK

This book is organized in two bands. The first band, deals with an overview of digital libraries. A brief description of each of its 8 chapters can be found in the detailed table of contents. Chapter 1 discusses the history, evolution and impact of digital libraries on various aspects of our society. Chapter 2 examines the principles and practices of interoperability – the ability of systems to work together – which is essential to digital libraries. Chapter 3 deals with defining and assessing the quality of a digital library. Chapter 4 addresses the collaborative aspects of digital libraries as a special case of Computer Supported Collaborative Work (CSCW). Chapter 5 examines the issue of digital formats for document encoding, archiving and publishing. Special kind of digital content are presented in Chapters 6 and 7, music libraries and how users interact with music stores and repositories and electronic books in digital libraries, respectively. Chapter 8 concludes with current and emerging challenges that are the result of using digital information.

The second band contains 16 chapters clustered in 4 sections. A brief description of each of the 16 chapters can be found in the detailed table of contents.

Section 1, titled “*Digital Libraries and Copyright Law*” is comprised of 9 chapters. This section deals with the most important issues posed by digital libraries in the modern environment of the Internet. The first two chapters refer to the digitization of contents in a digital library and analyze the economic rights as well as the moral right. In the third chapter the problem of ‘orphan’ works is discussed, which is central in the creation of digital libraries. The protection of digital libraries as databases under EU and US law is analyzed in the fifth chapter. The next chapter adopts an approach of copyright law as the result of reconciliation between diverging interests and examines the limitations and exceptions to copyright with regard to digital libraries. Subsequently, the sixth chapter presents a specific exception, i.e. the exception of quotation.

The last three chapters of this section deal with more specific issues. Chapter 14 discusses issues arising from web linking, particularly for digital libraries, while Chapter 15 addresses specific issues, such as those concerning the relation of digital libraries with ethics and peer-to-peer networks and also, certain copyright issues. Finally, the last chapter of this section examines the issue how can open access be achieved through the instrument of contracts.

Section 2 titled “*Traditional Media in Digital Libraries*” is comprised of two chapters. The first one deals with the new digital environment that embraces newspaper content and the second discusses issues concerning the inclusion of audiovisual works in digital libraries and their resulting exploitation.

Section 3 is titled “*Management of the Digital Library: IP Management and other Legal Issues*”. It provides an analysis in specific issues which do not relate to copyright, but are considerably important. Chapter 20 discusses data protection issues with regard to digital libraries, while the next chapter deals with the liability of hosting provider. Subsequently, Chapter 21 deals with jurisdiction issues.

Lastly, Section 4, which is titled “*Cultural Aspects*” is comprised of a single chapter, which deals with a very specific issue, the Preservation of Cultural and Scientific Heritage by means of Digital libraries.

REFERENCES

Atkins, D. E. (1997). *Report of the Santa Fe Planning Workshop on Distributed Knowledge Work Environments: Digital libraries*, Report Version September 20, 1997.

Borgman, C. L., Bates, M. J., Cloonan, M. V., Efthimiadis, E. N., Gilliland-Swetland, A., Kafai, Y., Leazer, G. L., & Maddox, A. (1996). *Social aspects of digital libraries. Final report to the National Science Foundation*. Online available at: <http://dli.grainger.uiuc.edu/national.htm>.

Borgman, C.L., (1999). What are digital libraries? Competing visions’. *Information Processing and Management* 35 pp. 227-243.

Canellopoulou-Bottis, M.,(2007). The Google Library Project and copyrights of publishers and authors. (in Greek). online available at: http://eprints.rclis.org/14598/1/5._KANELLOPOLOU_s._171-184.pdf

Geiger, C., (2010). Copyright and Digital Libraries. Securing Access to Information in the Digital Age. In Iglezakis/Kapidakis/Synodinou(eds.) *E-Publishing and Digital Libraries: Legal and Organizational Issues*. 2010.

Hadjimichail, (2010). Digital libraries and private international law: jurisdiction issues. Iglezakis/Kapidakis/Synodinou, (eds). *E-Publishing and Digital Libraries: Legal and Organizational Issues 2010*.

High Level Expert Group, (2007). *Report on Digital Preservation, Orphan Works, and Out-of-Print Works. Selected Implementation Issues*. online available at: http://ec.europa.eu/information_society/newsroom/cf/document.cfm?action=display&doc_id=295

High Level Expert Group, (2009). *Final Report, Digital Libraries: Recommendations and Challenges for the Future*. online available at: http://ec.europa.eu/information_society/activities/digital_libraries/doc/hleg/reports/copyright/copyright_subgroup_final_report_26508-clean171.pdf

Iglezakis, I., (2010). Personal data protection in digital libraries. In Iglezakis/Kapidakis/Synodinou (eds.) *E-Publishing and Digital Libraries: Legal and Organizational Issues 2010*.

Korres, K. & Kokotsaki, E., (2010). Preservation of Cultural and Scientific Heritage by means of Digital libraries. In Iglezakis/Kapidakis/Synodinou, (eds) *E-Publishing and Digital Libraries: Legal and Organizational Issues 2010*.

Koskinen-Olsson, T., (2009). Digital Libraries: Collective administration for on-line libraries – a rightsholders' dream or an outdated illusion? ALAI CONGRESS 2009, online available at: <http://www.alai2009.org/Presentations/ALAI%20Congress%202009%20-%20Tarja%20Koskinen-Olsson%20-%20Collective%20amination%20for%20on-line%20libraries.doc>

Lucas-Schloetter, A., (2010). Digital libraries and copyright issues. Digitization of contents and the economic rights of the authors. In Iglezakis/Kapidakis/Synodinou (eds) *E-Publishing and Digital Libraries: Legal and Organizational Issues 2010*.

Papadopoulou, M.-D., (2010). The Issue of 'Orphan' Works in Digital Libraries. In Iglezakis/Kapidakis/Synodinou, *E-Publishing and Digital Libraries: Legal and Organizational Issues*, 2010.

Papadopoulou, A., (2010). The Digitization of Contents in Digital Libraries: Moral Rights and Limits In Iglezakis/Kapidakis/Synodinou, *E-Publishing and Digital Libraries: Legal and Organizational Issues*, 2010.

Prasad, A., Agarwala, A., (2008). Armageddon on the digital superhighway: Will Google's e-library project weather the storm? *CLSR* 24 (2008), 253-260.

Synodinou, T.-E., (2010). The protection of digital libraries as databases: an ideal choice or a paradox? In Iglezakis/Kapidakis/Synodinou, *E-Publishing and Digital Libraries: Legal and Organizational Issues*, 2010.

Tsingos, T., (2010). Liability of hosting provider's liability with regard to open libraries, In Iglezakis/Kapidakis/Synodinou, *E-Publishing and Digital Libraries: Legal and Organizational Issues*, 2010.

Acknowledgment

This book came into existence due to the efforts of the publisher, IGI Global and its consultants. Particularly Mrs Christine Bufton provided us very helpful assistance during the time of the editing of the book. The idea of this book came after a proposal to one of the authors, Ioannis Iglezakis, from IGI Global, to edit a book on a contemporary topic of copyright law. So, it was the issue of digital libraries chosen which provokes conflicts. Thus, it was decided to enter into the world of digital libraries and examine a big variety of issues ranging from copyright law and other legal aspects to organizational aspects. In the first part, for which Professor Kapidakis took the responsibility of editing the relevant chapters, organizational aspects are discussed, while in the second part of the book, the relevant legal aspects are dealt with. Mrs Synodinou provided the idea of structuring the second part into different sections, discussing specific legal issues. The final outcome was, of course, the result of a fruitful collaboration between the editors.

Last, but not least, we would like to thank all the authors of the book who provided us their valuable contributions.

Ioannis Iglezakis
Aristotle University of Thessaloniki, Greece

Tatiana-Eleni Synodinou
University of Cyprus, Cyprus

Sarantos Kapidakis
Ionian University, Greece

April 2010

Part A

Organizational Issues

Table of Contents

Preface	xviii
----------------------	--------------

Acknowledgment.....	xxiii
----------------------------	--------------

Part A Organizational Issues

Chapter 1

History, Evolution, and Impact of Digital Libraries	1
--	----------

Leonardo Candela, Consiglio Nazionale delle Ricerche, Italy

Donatella Castelli, Consiglio Nazionale delle Ricerche, Italy

Pasquale Pagano, Consiglio Nazionale delle Ricerche, Italy

Chapter 2

Interoperability in Digital Libraries	31
--	-----------

Hussein Suleman, University of Cape Town, South Africa

Chapter 3

Quality and Interoperability: The Quest for the Optimal Balance.....	48
---	-----------

Nicola Ferro, University of Padua, Italy

Chapter 4

Collaboration through Digital Libraries.....	69
---	-----------

András Micsik, MTA SZTAKI DSD, Hungary

Chapter 5

Encoding Models for Scholarly Literature: Does the TEI Have a Word to Say?	88
---	-----------

Martin Holmes, University of Victoria, Canada

Laurent Romary, INRIA-Gemo & Humboldt Universität Berlin, Germany

Chapter 6

Music Libraries: How Users Interact with Music Stores and Repositories	111
--	-----

Dimitrios Margounakis, Aristotle University of Thessaloniki, Greece

Dionysios Politis, Aristotle University of Thessaloniki, Greece

Chapter 7

E-Books in Digital Libraries	131
------------------------------------	-----

Monica Landoni, University of Lugano, Switzerland

Chapter 8

Emerging Challenges of the Digital Information.....	141
---	-----

Sarantos Kapidakis, Ionian University, Greece

Part B

Legal Issues of Digital Libraries

Section 1

Digital Libraries and Copyright Law

Chapter 9

Digital Libraries and Copyright Issues: Digitization of Contents and the Economic	
---	--

Rights of the Authors	159
-----------------------------	-----

Agnès Lucas-Schloetter, Ludwig-Maximilian University, Germany

Chapter 10

The Digitization of Contents in Digital Libraries: Moral Right and Limits	180
---	-----

Anthoula Papadopoulou, Aristotle University of Thessaloniki, Greece

Chapter 11

The Issue of 'Orphan' Works in Digital Libraries	198
--	-----

Maria-Daphne Papadopoulou, Hellenic Copyright Organization, Greece

Chapter 12

The Protection of Digital Libraries as Databases: An Ideal Choice or a Paradox?	232
---	-----

Tatiana-Eleni Synodinou, University of Cyprus, Cyprus

Chapter 13

Copyright and Digital Libraries: Securing Access to Information in the Digital Age.....	257
---	-----

Christophe Geiger, University of Strasbourg, France

Chapter 14

Digital Libraries and Web Linking	273
---	-----

Maria G. Sinanidou, Hellenic Copyright Organization, Greece

Chapter 15

Intellectual Property Issues for Digital Libraries at the Intersection of Law, Technology, and the Public Interest.....	294
---	-----

Dionysia Kallinikou, National & Kapodistrian University of Athens, Greece

Marinos Papadopoulos, Athens Bar Association, Greece & Legal Lead Creative Commons, Greece

Alexandra Kaponi, Athens Bar Association, Greece

Vassiliki Strakantouna, National & Kapodistrian University of Athens, Greece

Chapter 16

Open Content in Libraries: Contractual Issues	342
---	-----

Galateia Kapellakou, Bar Office of Athens, Greece

Marina Markellou, Bar Office of Corinth, Greece

Evangelia Vagena, Hellenic Copyright Organization, Greece

Section 2

Traditional Media in Digital Libraries

Chapter 17

Newspapers and Digital Libraries.....	363
---------------------------------------	-----

Nadia Kyprouli, Athens Bar Association, Greece

Chapter 18

The Audiovisual Works as Digital Library Content: Storage and Exploitation.....	382
---	-----

Charis Tsigou, Greek Audiovisual Council, Greece

Section 3

Management of the Digital Library: IP Management and Other Legal Issues

Chapter 19

Personal Data Protection in Digital Libraries	413
---	-----

Ioannis Iglezakis, Aristotle University of Thessaloniki, Greece

Chapter 20

Liability of Hosting Provider with Regard to Open Libraries	430
---	-----

Thanos K. Tsingos, Athens Bar Association, Greece

Chapter 21

Copyright Infringement of Digital Libraries and Private International Law: Jurisdiction Issues	447
--	-----

Nikitas Hatzimihail, University of Cyprus, Cyprus

Section 4
Cultural Aspects

Chapter 22

Preservation of Cultural and Scientific Heritage by Means of Digital Libraries	462
--	-----

Stylianos Korres, Athens Bar Association, Greece

Eva Kokotsaki, Athens Bar Association, Greece

Compilation of References	482
---------------------------------	-----

About the Contributors	513
------------------------------	-----

Index	522
-------------	-----

Detailed Table of Contents

Preface	xviii
Acknowledgment	xxiii

Part A **Organizational Issues**

Chapter 1

History, Evolution, and Impact of Digital Libraries	1
<i>Leonardo Candela, Consiglio Nazionale delle Ricerche, Italy</i>	
<i>Donatella Castelli, Consiglio Nazionale delle Ricerche, Italy</i>	
<i>Pasquale Pagano, Consiglio Nazionale delle Ricerche, Italy</i>	

Digital Libraries have achieved a fundamental role in our knowledge society. By making the wealth of material contained in libraries, museum, archives and any knowledge repository worldwide available they are giving citizens in every place of the world the opportunity to appreciate their global cultural heritage and use it for study, work or leisure. They are revolutionising the whole knowledge management lifecycle. In this chapter, the history characterizing these “knowledge enabling technologies” is described. The history starts from the early attempts toward systems supporting knowledge discovery and reaches the current age in which a plethora of different realizations of digital library systems co-exist. The evolutionary process conducting to the current, multi-instanced and still evolving status of affairs as well as the motivations governing it are identified and presented. The main initiatives and milestones producing the nowadays instances of these knowledge enabling systems are mentioned. Finally, the impact these systems had and are having on various aspects of our society is discussed.

Chapter 2

Interoperability in Digital Libraries	31
<i>Hussein Suleman, University of Cape Town, South Africa</i>	

This chapter present the principles and practices of interoperability – the ability of systems to work together – as it pertains to digital libraries. While there is no well-defined theoretical basis for interoperability, it has gradually emerged as a major aspect in the creation of digital library systems,

particularly in modern digital repositories such as those adopted by the Open Access movement. The need for standardisation is a key element of interoperability, and is considered in tandem with the more technical elements. Principles of interoperability have emerged through experimentation and any future attempts to infuse interoperability into a system should build on these principles, such as simplicity and orthogonality. In practice, experiments with system and protocols have demonstrated what works and what does not and where there is a need for additional interventions, such as the successful OAI-PMH and RSS standards. The key interoperability technologies currently in use in digital library systems are introduced and contextualised in terms of their applicability and motivations. In this discussion, the line between digital library standards and Web standards is intentionally fuzzy because of the increasingly symbiotic relationship between these communities.

Chapter 3

Quality and Interoperability: The Quest for the Optimal Balance..... 48

Nicola Ferro, University of Padua, Italy

This chapter deals with the problem of defining and assessing the quality of a digital library. The chapter will provide a brief excursus on the evolution of digital libraries and their current complexity to make it clear that there is a strong need for systematic and exhaustive models which precisely define what digital libraries are and encompass a model for the quality of digital libraries. In this context, we will present an overview of the DELOS Reference Model for digital libraries and we will go into details about how quality has been modelled in it. We will also compare this model to another formal model for digital libraries, which is the Stream, Structures, Spaces, Scenarios, Societies (5S) model. The discussion addressed in the chapter will not be limited to quality issues but will show how quality impact on various dimensions of the digital library universe. In particular, we will discuss how quality relates to interoperability. To this end, we will describe the conceptual model for interoperability developed in support to the European Digital Library initiative and we will highlight its relationships with the quality domain in the DELOS Reference Model. Finally, we will outlook some future directions that may be pursued to improve and automate the assessment and evaluation of quality in digital libraries.

Chapter 4

Collaboration through Digital Libraries..... 69

András Micsik, MTA SZTAKI DSD, Hungary

This chapter addresses the collaborative aspects of digital libraries as a special case of Computer Supported Collaborative Work (CSCW). Libraries always had social and cultural roles, and worked as a dedicated place for learning, research and sometimes also for opinion exchange and debates. The Internet era gave birth to digital libraries which can also represent a whole range of collaborative functions. The suitable collaborative functions are different for young students, general public or scientists and also different in the view of the user's goals, such as finding content, finding answers or creating new content. The collaborative aspects of these library functions are described here in details with typical examples. Despite of these examples, many librarians think that digital libraries failed to ride the waves of emerging web technologies, and current digital libraries cannot serve general information needs well enough, so they are not among the first sources of information and collaboration support any more. An important moment in the evolution of DL systems was the appearance of Web 2.0 technology and