Table of Contents

Foreword .................................................................................................................................................. xxxii

Preface .................................................................................................................................................... xxxvi

Acknowledgment ................................................................................................................................... xxxix

Section I
Design and Development

Chapter I
OpenDLib: A Digital Library Service System ....................................................................................... 1
Leonardo Candela, Istituto di Scienza e Tecnologie dell’Informazione “A. Faedo”
(ISTI-CNR), Italy
Donatella Castelli, Istituto di Scienza e Tecnologie dell’Informazione “A. Faedo”
(ISTI-CNR), Italy
Pasquale Pagano, Istituto di Scienza e Tecnologie dell’Informazione “A. Faedo”
(ISTI-CNR), Italy
Manuele Simi, Istituto di Scienza e Tecnologie dell’Informazione “A. Faedo” (ISTI-CNR),
Italy

Chapter II
Information Security and Privacy in Digital Libraries ........................................................................... 8
Mohammed Nasser Al-Suqri, Sultan Qaboos University, Oman
Esther O.A. Fatuyi, Elsie Whitlow Stokes Community Freedom Public School, USA

Chapter III
Digital Learning Objects and Metadata ................................................................................................. 16
Sarah-Jane Saravani, Waikato Institute of Technology, New Zealand

Chapter IV
Extensible Digital Library Service Platform ........................................................................................... 27
Jian-hua Yeh, Aletheia University, Taiwan
Shun-hong Sie, National Taiwan Normal University, Taiwan
Chao-chen Chen, National Taiwan Normal University, Taiwan
Chapter V
Personal Digital Libraries ............................................................................................................................ 41
Juan C. Lavariega, Tecnológico de Monterrey, Mexico
Lorena G. Gomez, Tecnológico de Monterrey, Mexico
Martha Sordia-Salinas, Tecnológico de Monterrey, Mexico
David A. Garza-Salazar, Tecnológico de Monterrey, Mexico

Chapter VI
Comparing Open Source Digital Library Software ............................................................ 51
George Pyrounakis, University of Athens, Greece
Mara Nikolaidou, Harokopio University of Athens, Greece

Chapter VII
The Greenstone Digital Library Software ....................................................................................... 61
Ian H. Witten, University of Waikato, New Zealand
David Bainbridge, University of Waikato, New Zealand

Chapter VIII
Design and Development of a Taxonomy Generator: A Case Example for Greenstone ................. 73
Yin-Leng Theng, Nanyang Technological University, Singapore
Nyein Chan Lwin Lwin, Nanyang Technological University, Singapore
Jin-Cheon Na, Nanyang Technological University, Singapore
Schubert Foo, Nanyang Technological University, Singapore
Dion Hoe-Lian Goh, Nanyang Technological University, Singapore

Chapter IX
From Digital Archives to Virtual Exhibitions ...................................................................................... 88
Schubert Foo, Nanyang Technological University, Singapore
Yin-Leng Theng, Nanyang Technological University, Singapore
Dion Hoe-Lian Goh, Nanyang Technological University, Singapore
Jin-Cheon Na, Nanyang Technological University, Singapore

Section II
Information Processing and Content Management

Chapter X
Standardization of Terms Applying Finite-State Transducers (FST) .............................................. 102
Carmen Galvez, University of Granada, Spain

Chapter XI
Extracting the Essence: Automatic Text Summarization .............................................................. 113
Fu Lee Wang, City University of Hong Kong, Hong Kong
Christopher C. Yang, Drexel University, USA

Chapter XII
Metadata Interoperability ..................................................................................................................... 122
K. S. Chudamani, JRDTML, IISc, Bangalore-12, India
H. C. Nagarathna, JRDTML, IISc, Bangalore-12, India
Chapter XIII
Semantic Association Analysis in Ontology-Based Information Retrieval .............................................. 131
Payam M. Barnaghi, University of Nottingham, Malaysia Wei Wang, University of Nottingham, Malaysia Jayan C. Kurian, University of Nottingham, Malaysia

Chapter XIV
Effective and Efficient Browsing of Large Image Databases ................................................................. 142
Gerald Schaefer, Aston University, UK

Chapter XV
User Profiles for Personalizing Digital Libraries ................................................................................. 149
Giovanni Semeraro, University of Bari, Italy Pierpaolo Basile, University of Bari, Italy Marco de Gemmis, University of Bari, Italy Pasquale Lops, University of Bari, Italy

Chapter XVI
Automatic Text Summarization in Digital Libraries .............................................................................. 159
Shiyan Ou, University of Wolverhampton, UK Christopher S.G. Khoo, Nanyang Technological University, Singapore Dion Hoe-Lian Goh, Nanyang Technological University, Singapore

Chapter XVII
Speechfind: Advances in Rich Content Based Spoken Document Retrieval ....................................... 173
Wooil Kim, Center for Robust Speech Systems (CRSS), Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, USA John H. L. Hansen, Center for Robust Speech Systems (CRSS), Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, USA

Chapter XVIII
Using Topic-Specific Ranks to Personalize Web Search ..................................................................... 188
Sophia Stamou, Patras University, Greece

Chapter XIX
Guidelines for Developing Digital Cultural Collections ..................................................................... 198
Irene Lourdi, National & Kapodistrian University of Athens, Greece Mara Nikolaidou, Harokopio University of Athens, Greece

Chapter XX
Digital Libraries and Ontology ........................................................................................................... 206
Neide Santos, Universidade do Estado do Rio de Janeiro, Brazil Fernanda C. A. Campos, Universidade Federal de Juiz de Fora, Brazil Regina M. M. Braga Villela, Universidade Federal de Juiz de Fora, Brazil
Chapter XXI
A Classification Scheme for Innovative Types in Scholarly Communication ........................................... 216
Svenja Hagenhoff, University of Goettingen, Germany
Björn Ortelbach, University of Goettingen, Germany
Lutz Seidenfaden, University of Goettingen, Germany

Chapter XXII
Improving Multimedia Digital Libraries Usability Applying NLP Sentence Similarity to Multimodal Sentences ................................................................................................................................. 227
Stefano Paolozzi, Consiglio Nazionale delle Ricerche, Italy
Fernando Ferri, Consiglio Nazionale delle Ricerche, Italy
Patrizia Grifoni, Consiglio Nazionale delle Ricerche, Italy

Chapter XXIII
Duplicate Journal Title Detection in References ................................................................. 235
Ana Kovacevic, University of Belgrade, Serbia
Vladan Devedzic, University of Belgrade, Serbia

Chapter XXIV
Word Segmentation in Indo-China Languages for Digital Libraries ................................................................. 243
Jin-Cheon Na, Nanyang Technological University, Singapore
Tun Thura Thet, Nanyang Technological University, Singapore
Dion Hoe-Lian Goh, Nanyang Technological University, Singapore
Yin-Leng Theng, Nanyang Technological University, Singapore
Schubert Foo, Nanyang Technological University, Singapore
Paul Horng-Jyh Wu, Nanyang Technological University, Singapore

Chapter XXV
On the Effectiveness of Social Tagging for Resource Discovery ................................................................. 251
Dion Hoe-Lian Goh, Nanyang Technological University, Singapore
Khasfariyati Razikin, Nanyang Technological University, Singapore
Alton Y. K. Chua, Nanyang Technological University, Singapore
Chei Sian Lee, Nanyang Technological University, Singapore
Schubert Foo, Nanyang Technological University, Singapore
Jin-Cheon Na, Nanyang Technological University, Singapore
Yin-Leng Theng, Nanyang Technological University, Singapore

Chapter XXVI
Semantic Annotation and Retrieval of Images in Digital Libraries ................................................................. 261
Taha Osman, Nottingham Trent University, UK
Dhavalkumar Thakker, Nottingham Trent University, UK
Gerald Schaefer, Aston University, UK
Section III
Users, Interactions, and Experiences

Chapter XXVII
Metadata and Metaphors in Visual Interfaces to Digital Libraries .............................................. 270
Ali Shiri, University of Alberta, Canada

Chapter XXVIII
Usability Evaluation of Digital Library ...................................................................................... 278
Judy Jeng, New Jersey City University, USA

Chapter XXIX
Digital Library Requirements: A Questionnaire-Based Study ................................................... 287
Stephen Kimani, Institute of Computer Science and Information Technology, JKUAT, Kenya
Emanuele Panizzi, University of Rome “La Sapienza,” Italy
Tiziana Catarci, University of Rome “La Sapienza,” Italy
Margerita Antona, FORTH-ICS, Greece

Chapter XXX
Handhelds for Digital Libraries ................................................................................................. 298
Spyros Veronikis, Ionian University, Greece
Giannis Tsakonas, Ionian University, Greece
Christos Papatheodorou, Ionian University, Greece

Chapter XXXI
The CGIAR Virtual Library Bridging the Gap Between Agricultural Research and Worldwide Users .... 308
Mila M. Ramos, International Rice Research Institute (IRRI), Philippines
Luz Marina Alvaré, International Food Policy Research Institute (IFPRI), USA
Cecilia Ferreyra, International Potato Center (CIP), Peru
Peter Shelton, International Food Policy Research Institute (IFPRI), USA

Chapter XXXII
Map-Based User Interfaces for Music Information Retrieval ....................................................... 321
Robert Neumayer, Vienna University of Technology, Austria
Andreas Rauber, Vienna University of Technology, Austria

Chapter XXXIII
Patent and Trade Secret in Digital Libraries ................................................................................ 330
Hideyasu Sasaki, Ritsumeikan University, Japan

Chapter XXXIV
User-Adapted Information Services ............................................................................................. 336
Thomas Mandl, University of Hildesheim, Germany

Chapter XXXV
An Empirical Analysis of the Utilization of University Digital Library Resources ....................... 344
Hepu Deng, RMIT University, Australia
Chapter XXXVI
Visualisation of Large Image Databases

Gerald Schaefer, Aston University, UK
Simon Ruszala, Teleca, UK

Section IV
Case Studies and Applications

Chapter XXXVII
Towards Multimedia Digital Libraries

Claudio de Souza Baptista, University of Campina Grande, Brazil
Ulrich Schiel, University of Campina Grande, Brazil

Chapter XXXVIII
BIVALDI the Digital Library of the Valencian Bibliographic Inheritance

Nuria Lloret Romero, Polytechnic University of Valencia, Spain
Margarita Cabrera Méndez, Polytechnic University of Valencia, Spain
Alicia Sellés Carot, Masmedios Ltd., Spain
Lilia Fernandez Aquino, Masmedios Ltd., Spain

Chapter XXXIX
Digital Libraries as a Foundation of Spatial Data Infrastructures

Rubén Béjar, University of Zaragoza, Spain
J. Nogueras-Iso, University of Zaragoza, Spain
Miguel Ángel Latre, University of Zaragoza, Spain
Pedro Rafael Muro-Medrano, University of Zaragoza, Spain
F. J. Zarazaga-Soria, University of Zaragoza, Spain

Chapter XL
DL and GIS: Path to a New Collaboration Paradigm

O. Cantán Casbas, San Jorge University, Spain
J. Nogueras-Iso, University of Zaragoza, Spain
F. J. Zarazaga-Soria, University of Zaragoza, Spain

Chapter XLII
Digital Libraries Beyond Cultural Heritage Information

Piedad Garrido Picazo, University of Zaragoza, Spain
Jesús Tramullas Saz, University of Zaragoza, Spain
Manuel Coll Villalta, University of Zaragoza, Spain

Chapter XLIII
Reference Services in Digital Environment

Wan Ab. Kadir Wan Dollah, MARA University of Technology, Malaysia
Diljit Singh, University of Malaya, Malaysia

Chapter XLIV
USGS Digital Libraries for Coastal and Marine Science

Frances L. Lightsom, U.S. Geological Survey, USGS Woods Hole Science Center, USA
Alan O. Allwardt, ETI Professionals, USGS Pacific Science Center, USA
Chapter XLIV
Digital Preservation ................................................................. 431
Stephan Strodl, Vienna University of Technology, Austria
Christoph Becker, Vienna University of Technology, Austria
Andreas Rauber, Vienna University of Technology, Austria

Chapter XLV
Visual Pattern Based Compressed Domain Image Retrieval ................................................. 441
Gerald Schaefer, Aston University, UK

Chapter XLVI
Music Information Retrieval ...................................................................................... 448
Thomas Lidy, Vienna University of Technology, Austria
Andreas Rauber, Vienna University of Technology, Austria

Chapter XLVII
The Strategic Plan of Digital Libraries ............................................................................. 457
Juha Kettunen, Turku University of Applied Sciences, Finland

Chapter XLVIII
Software Process Asset Libraries Using Knowledge Repositories .................................. 465
Leonardo Bermón-Angarita, Carlos III University of Madrid, Spain
Antonio Amescua-Seco, Carlos III University of Madrid, Spain
Maria Isabel Sánchez-Segura, Carlos III University of Madrid, Spain
Javier García-Guzmán, Carlos III University of Madrid, Spain

Chapter XLIX
The Role and Integration of Digital Libraries in E-Learning .............................................. 476
Han Lee Yen, Nanyang Technological University, Singapore

Chapter L
Development of Digital Libraries in Pakistan ................................................................... 482
Kanwal Ameen, University of the Punjab, Lahore, Pakistan
Muhammad Rafiq, Government College University Lahore, Pakistan

Section V
Digital Library Education and Future Trends

Chapter LI
Core Topics in Digital Library Education ......................................................................... 493
Seungwon Yang, Digital Library Research Laboratory, Virginia Tech, USA
Barbara M. Wildemuth, University of North Carolina at Chapel Hill, USA
Jeffrey P. Pomerantz, University of North Carolina at Chapel Hill, USA
Sanghee Oh, University of North Carolina at Chapel Hill, USA
Edward A. Fox, Digital Library Research Laboratory, Virginia Tech, USA
Chapter LII
Digital Libraries as Centres of Knowledge: Historical Perspectives from European Ancient Libraries
Natalie Pang, Monash University, Australia

Chapter LIII
The European Approach Towards Digital Library Education: Dead End or Recipe for Success?
Wolfgang Ratzek, Stuttgart Media University, Germany

Chapter LIV
New Roles of Digital Libraries
Faisal Ahmad, University of Colorado at Boulder, USA
Tamara Sumner, University of Colorado at Boulder, USA
Holly Devaul, Digital Learning Sciences, USA

Chapter LV
A Review of Progress in Digital Library Education
Yongqing Ma, Victoria University of Wellington, New Zealand
Warwick Clegg, Victoria University of Wellington, New Zealand
Ann O’Brien, Loughborough University, UK

Chapter LVI
The Future of Learning with Digital Libraries
Chang Chew-Hung, Nanyang Technological University, Singapore
John G. Hedberg, Macquarie University, Australia

Chapter LVII
Computational Sense for Digital Librarians
Michael B. Twidale, University of Illinois, USA
David M. Nichols, University of Waikato, New Zealand

Chapter LVIII
Digital Libraries Overview and Globalization
Soh Whee Kheng Grace, Nanyang Technological University, Singapore

Compilation of References

About the Contributors

Index