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INTEGRATED INFORMATION

International Conference on Integrated Information

Kos, Greece September, 29 – October, 3 2011

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Preface: Proceedings of the International Conference on Integrated Information (IC-ININFO 2011)

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Aims and Scope of the Conference

The International Conference on Integrated Information 2011 took place in Kos Island, Greece, between September, 29 and October, 3, 2011. IC-ININFO is an international interdisciplinary conference covering research and development in the field of information management and integration.

The conference aims at creating a forum for further discussion for an Integrated Information Field incorporating a series of issues and/or related organizations that manage information in their everyday operations. Therefore, the call for papers is addressed to scholars and/ or professionals of the fields of Library and Archives Science (including digital libraries and electronic archives), Museum and Gallery Studies, Information Science, Documentation, Information Management, Records Management, Knowledge Management, Data management and Copyright experts the latter with an emphasis on Electronic Publications. Furthermore, papers focusing on issues of Cultural Heritage Management and Conservation Management are also be welcomed along with papers regarding the Management of Nonprofit Organizations such as libraries, archives and museums.

One of the primary objectives of the IC-ININFO will be the investigation of information-based managerial change in organizations. Driven by the fast-paced advances in the Information field, this change is characterized in terms of its impact on organizations that manage information in their everyday operations.

Grouping emerging technologies in the Information field together in a close examination of practices, problems and trends, IC-ININFO and its emphases on integration and management will present the state of the art in the field. Addressed jointly to the academic and practitioner, it will provide a forum for a number of perspectives based on either theoretical analyses or empirical case studies that will foster dialogue and exchange of ideas.

Topics of general Interest

Library Science, Archives Science, Museum and Gallery Studies, Information Science, Documentation, Digital Libraries, Electronic Archives, Information Management, Records / Document Management, Knowledge Management, Data Management, Copyright, Electronic Publications, Cultural Heritage Management, Conservation Management, Management of Nonprofit Organizations, History of Information, History of Collections, Health Information

Symposia

The Conference offered a number of sessions under its patronage, providing a concise overview of the most current issues and hands-on experience in information-related fields.

- Symposium on Integrated information: Theory, Policies, Tools
- 4th Symposium on Business and Management and Dynamic Simulation Models supporting management strategies

- Session on Open Access Rrepositories: Self-archiving, Metadata, Content policies, Usage
- Session on Evidence-Based Information in Clinical Practice
- Session on Business Management and Communication Strategies supporting Decision Making Process in Tourism Sector
- Session on Electronic Publishing: A Developing Landscape
- Session on Information and Knowledge Management
- Session on Information Content Preservation as Outcome of Conservation of Cultural Heritage: Ethics, Methodology and Tools
- Session on Advances Information for Strategic Management
- Session on Information History: Perspectives, Methods and Current Topics
- Session on Divergence and Convergence: Information Work in Digital Cultural Memory Institutions
- Session on Contemporary issues in Management: Organisational Behaviour, Information Technology, Education & Hospital leadership.

The wide range of aspects that the sessions covered, highlighted future trends in the Information Science.

Paper Peer Review

More than 300 papers had been submitted for consideration in IC-ININFO 2011. From them, 91 were selected for presentation, after peer review in a double blind review process. The accepted papers were presented at IC-ININFO 2011.

Thanks

We would like to thank all members that participated in any way in the IC-ININFO 2011 Conference and especially:

- The famous publishing house Emerald for its communication sponsorship.
- The co-organizing Universities and Institutes for their support and development of a high-quality Conference scientific level and profile.
- The members of the Scientific Committee that honored the Conference with their presence and provided a significant contribution to the review of papers as well as for their indications for the improvement of the Conference.
- All members of the Organizing Committee for their help, support and spirit participation before, during and after the Conference.
- The Session Organizers for their willing to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the Conference.
- PhDc Marina Terzi for her excellent editorial work, contributing in the production of the Conference proceedings.

CONFERENCE DETAILS

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Dionysis Kokkinos, National Technical University of Athens

KEYNOTE SPEAKER

Professor Amanda Spink

Professor Amanda Spink has published over 340 scholarly journal articles, refereed conference papers and book chapters, and 6 books. Many of her journal articles are published in the Journal of the American Society for Information Science and Technology, Information Processing and Management, and the Journal of Documentation. She is Editor of the Emerald journal Aslib Proceedings. Amanda's research has been published at many conferences including ASIST, IEEE ITCC, CAIS, Internet Computing, ACM SIGIR, and ISIC Conferences. Her recent books include Information Behavior: An Evolutionary Instinct and Web Search: Multidisciplinary Perspectives, both published by Springer. Amanda's research focuses on theoretical and empirical studies of information behavior, including the evolutionary and developmental foundations. The National Science Foundation, the American Library Association, Andrew R. Mellon Foundation, Amazon.com, Vivisimo. Com, Infospace.com, NEC, IBM, Excite.com, AlltheWeb.com, AltaVista.com, FAST, and Lockheed Martin have sponsored her research. In 2008 Professor Spink had the second highest H-index citation score in her field from 1998 to 2008 [Norris, M. (2008)]. Ranking Fellow Scholars and their H-Index: Preliminary Survey Results. Loughborough University, Dept of Information Science Report].

Symposium on Information and Knowledge Management

Organizer: Professor Christos Skourlas, cskourlas(at)teiath.gr

Department of Informatics

Technological Educational Institute of Athens

Description: The Session aims at providing researchers and professionals with an insight on Information and Knowledge Management in IT applications. Paper contributions from the industry, government, business, academia and research are expected to:

- Consider information and knowledge management, Data mining and Content Based Information Retrieval to comprise increasingly important aspects in the provision of electronic services. - Integrate information and knowledge management with multimedia enhanced activities, and/or the business process workflow control in IT projects. - Enhance information retrieval and workflow control with organizational memory techniques, in order to facilitate project management activities by proactively providing context-specific information to the user.

Session topics include, but they are not limited to: Information and Knowledge Management systems, Information Retrieval and Content Based Information Retrieval, Knowledge Discovery, Data and Web Mining, Semantic Web and XML, Human-Computer Interaction, Public administration and governmental services, Ubiquitous / Pervasive computing and Adoption of Information Technology in Organizations, E-Learning, e-Commerce, e-Business and e-Government.

Integrating a Repository with Research Output and Publications: The case of the National Technical University of Athens

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Abstract: *The paper describes the progress of the main Institutional Repository (IR) of the National Technical University of Athens (NTUA) and its current development. The new challenges presented are the enhancement of the repository with new services and collections. One of the major collections which is under development is the University's research output. We have already started populating the collection with papers and presentations published by the members of NTUA's academic community. Our first step was to establish new self-archiving routines for the academic staff and faculty members. This included new forms and directions, to support the deposit of their publications. The essential goal of the IR integration is to gather all of NTUA's scientific and technical content and simultaneously to provide new, personalized and advanced services.*

Keywords: *Institutional repositories, Integration, Scholarly publishing, Open access, Digital content.*

I. INTRODUCTION

The *National Technical University of Athens* (NTUA) is the oldest and most prestigious educational institution of Greece in the field of technology, and has contributed unceasingly to the country's scientific, technical and economic development since its foundation in 1836. Recently (scoring results 2010), NTUA achieved to rank 17th among the European Research Institutions according to the European Research Ranking (2011). The NTUA personnel include more than 700 professors and scientific assistants and there are many researchers as well. The total number of undergraduate students is about 13000 and the post-graduate students are 4000. Professors, researchers, students and staff consists a vital and productive community participating in numerous valuable projects and publications. A recent survey on the number of research projects sponsored by the European Commission classifies NTUA in the 2nd place among all European universities and in the 4th place among all European organizations (NTUA, 2011). The amount and the high standards of this research are proved by the numerous publications in scientific journals and proceedings of international conferences. All these publications need to be collected and disseminated to broader scientific communities. The concept is to exploit all the publications and the other research output. The ideal way to exploit these publications is through the IR service. The whole idea is described in detail in a related Conference paper (Kouis and Kokkinos, 2009). More specifically, the suggested model of a digital library with technical digital content is illustrated with regard to aggregating and displaying the research papers or data produced at NTUA.

The Central Library of NTUA started operating in 1914. It serves the NTUA teaching staff, assistants, researchers, administrative staff and students, as well as scientists and students from other universities and institutions. It offers a variety of services either locally, or remotely. There are 15.000 registered Library users (students, staff and faculty). The Central Library has established a new Open Access *Institutional Repository* (IR) policy on July 2007. The IR contains *Electronic Theses and Dissertations* (ETDs) combined with a submission tool/service and a growing collection of scientific publications (NTUA Central Library, 2011). It is based on a DSpace installation (DSpace, 2011), using *Dublin Core* (DC) descriptive metadata and *Open Access Initiative Protocol for Metadata Harvesting* (OAI-PMH) for interoperability and inter-connectivity reasons. At the time of writing this paper (September 2011), there are approximately 3000 ETDs stored in the repository, where the majority are diploma theses, providing worldwide access to full text in PDF format. The NTUA IR, as part of the NTUA Digital Library, is participating in the *European Digital Library* (Europeana, 2011) contributing cultural digital content, that gave the opportunity to make local digital content available to all the citizens in Europe. Despite the fact that the majority of our digital items are in Greek, the cultural and scientific digital content is now accessible to a wide European community. It is remarkable that Europeana's collection reaches 15 million items and 1500 institutions have contributed to Europeana.

The NTUA IR is indexed in the *Directory of Open Access Repositories* (DOAR) and in the *Registry of Open Access Repositories* (ROAR); additionally the NTUA Digital Library, including the IR, is indexed in the *Greek Digital Resources Index*. It is useful to point out that, through the NTUA's Digital Library is also provided access to unique digitized collections. There are two separate collections, the first with digitized rare books (Greek Scientific and Technical Bibliography: 1830-1940) in jpeg format (one image per page) and the second one with digitized rare journals in PDF format (1 PDF file per article). The digitized material (monographs and journals) belongs to the Historical Library of NTUA and their subjects cover, among others, the fields of technology, history of sciences and

natural sciences. In total, the historical digital collection count approximately 2000 digital items.

II. INSTITUTIONAL REPOSITORY: INITIAL STEPS

Current progress

During the testing period of NTUA'S IR, was conducted a survey in order to evaluate the existing service. The findings were very useful. The statistical analysis results encourage the service to grow and include all university departments. Firstly, the Central Library of NTUA planned a software upgrade from v.1.3 to DSpace v. 1.7.1. In April 2011 we moved to the newest DSpace release and simultaneously we obtained and installed new hardware (including appropriate server, storage and back-up system). Subsequently, we managed to take the responsibility of preserving metadata and digital content in order to guarantee the access to the digital items.

Since 2011, all university departments participate in IR. This was the first milestone. In parallel, we made a transition from a semi-automated metadata importing process into the main IR, to a fully automated one (batch). After that the service and the process administration were improved. Given that, it is very easy to manage the on-line submissions and to import them into the DSpace platform.

It is mandatory for all graduate, post-graduate and doctoral students to deposit their theses or dissertations (diploma or master thesis and PhD dissertation) in the main repository of NTUA. All the students have to submit their theses through an e-submission tool (web application) in PDF format, or other accepted formats (jpeg for images and pictures, and ppt for presentations). It is required to upload at least one PDF file (one PDF file with the main text, marked as primary) while all the others are optional. In total, up to 10 files can be uploaded in the same submission. The e-submission tool was developed from scratch. This decision was taken at the time of designing the new repository as a service, five years ago. This tool, acts as a proxy between DSpace and the end user. Its technical characteristics are described in detail in a relevant journal article (Koulouris and Anagnostopoulos, 2010).

With all departments participating in IR we had 50 submissions per day (peak) during summer examination period. As a result, more than 500 new ETDs submitted and stored in the main NTUA's repository during the period mentioned above.

The second milestone is to broaden the service throughout the university community. The plan is to promote the self-archiving procedure to all univeristy members with new collections, such as research papers, publications, reports, etc.

III. NEW CHALLENGES

One of our new challenges that appeared recently is to gather all NTUA's scientific and technical digital content and simultaneously to provide new, personalized and advanced services. The IR can serve as a publisher of research publications (peer-reviewed papers or articles, conference papers, reports, etc.).

Through the integrated IR, our University is pursuing the following goals:

- making the university scientific and research content available and visible from a single point,
- adding value to research results and outputs by promoting access and discoverability,
- guaranteeing long-term preservation of the scientific and academic content,
- supporting and assisting the academic community with electronic publications.

It was decided to motivate the academic staff and faculty members to deposit their publications in the IR. Two new collections were created; one for publications in scientific journals and another for conference publications or presentations (for conference papers, posters, etc.). At the same time, we have adapted the appropriate forms for each collection with the aim to support the specific needs of our academic staff. In addition, we focused on preparing short and extended directions for the depositing users.

On top of that, we wanted to take advantage of the possibility to upload publications using batch utilities. In cooperation with the university departments, we managed to gather 500 publications. The next step was to upload the publications into the IR, which was achieved regardless the minor problems that we faced.

It is noteworthy that, we do not give access to the full-text papers but we provide full descriptive metadata including DOI. As a result, the academic community, staff and library users have access to the full publications through original journals and publishers. The majority of the publications are in journals that have on-line subscriptions (e.g. Elsevier journals) and therefore on-line access.

In order to help and assist the academic staff of our University to gather and prepare their publications, we provide them with a form containing the necessary descriptive metadata elements. The form is simple and is combined with basic directions. The metadata form is the following:

Elements	**Content**	**Notes**
Authors (e.g. Petropoulos, George)		
Title		
Date of Issue (e.g. 2010)		
Publisher (e.g. Elsevier)		
Citation (e.g. Journal of Electrostatics, 62, no. 5 (2004), pp. 408-421.)		

DOI		
Type (e.g. Article, Conference paper)		
Language		
School/Department		

Figure1. Metadata form

All University members, basically academic staff (professors, researchers, etc.), are able to submit their completed forms to the Library. Following that, the Library and specifically the IR staff, is responsible to check and deposit the publications into the repository. Alternatively, the university members have the opportunity to register to the DSpace platform and submit their publications directly, via the personalized DSpace interface (my DSpace).

The first screen for publication submission is the following:

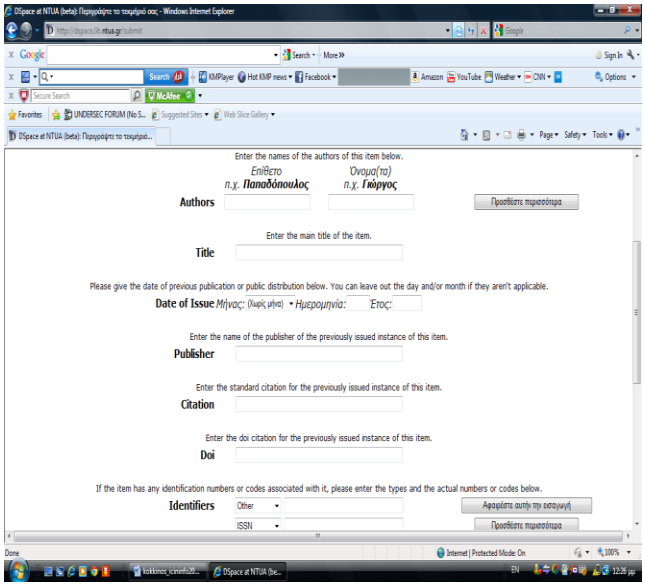

Figure 2. Publication submission form

All research publications will have a persistent link (Permanent URL) and can be found via NTUA's DSpace search engine and other search engines and indexes.

IV. FUTURE WORK

The growth of the IR to include all university departments theses and dissertations combined with the integration of new collections with NTUA's research output, were the first priorities. Since, the infrastructure is ready to receive and preserve the scientific data; we need to promote efficiently the integration of the IR by adding new collections and subsequently new digital content. In addition, tutorials will be given to the faculty members, assistants and students in order to make them understand the process of depositing digital items (publications) to the repository.

V. CONCLUSIONS

NTUA's integrated IR, which is still under development, preserves and enables easy and open access to different types of digital scientific content. It is an open digital repository that provides access to knowledge both for the members of NTUA and to every scientist and researcher around the globe. The IR, as an integrated service, is developed as part of Central Library's vision to promote not only the open access movement, but also the impact of the research output and publications of NTUA. The procedure of making the research publications available through IR has several benefits for the academic and scientific community:

- Greater impact and increased access to research outputs.
- Enhanced research dissemination.
- Availability of the existing knowledge.
- Long-term preservation.

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