

The case of “Eureka!”the Institutional Repository of Alexander Technological Educational Institution of Thessaloniki (Greece)

Abstract

A Greek Educational Institution Library, understanding the needs of its community for the upgrading of the scholarly communication services and aiming not only at following but also at actively participating into the new scholarly communication paradigm, developed, after studying the national and international relevant initiatives, an Open Access Institutional Repository. The Institutional Repository was created in order to contribute to the support of e-science, the protection and interchange of scientific content, as well as the preservation and reinforcement of the cultural production of the Institution.

This paper builds upon the case of this repository presenting a general overview of the project tasks since its beginning up to date. The Institutional Repository presented here uses Dspace software of MIT, which capitalizes on the Application servers and the Java programming language advantages. It is hosted on a Linux platform that ensures efficiency, stability and security both on the transaction and data preservation levels. An analysis is also made of the total planning, changes and additions having been implemented into the repository system. The above alterations make the repository system more functional and flexible, while at the same time improve interaction with users, adding value to its services.

Introduction

Institutional Repositories and their relation with the Open Access movement constitute internationally the new scientific trend as far as scholarly communication is concerned. The need for even wider access to the scientific data with the objective of democratizing the dissemination of research results and the cost, especially, of scientific journals as well as the reduced library budgets have created a strong movement that aims at the free on-line access to digital material.

The Alexander Technological Educational Institution-Thessaloniki (ATEI-THE) Library, understanding the needs of its community for the upgrade of the scholarly communication services and aiming not only at following but also at actively participating into the new scholarly communication paradigm, developed, after studying the national and international relevant initiatives, an Open Access Institutional Repository, called “Eureka!”. The Institutional Repository was created in order to contribute to the support of e-science, the protection and interchange of scientific content, as well as the preservation and reinforcement of the cultural production of the Institution.

About “Eureka!”

The Alexander Technological Educational Institute of Thessaloniki consists of 5 schools, with a total number of 24 departments plus the “Foreign Language and Physical Education Centre”, and has over 20.000 students and approximately 700 permanent staff members. ATEI-THE is one of the major Institutions of higher education in Greece.

The “Eureka!” project begun on June 2006 – and is still in progress – as a subproject within the O.P. “Education” II – MEASURE 2.1 ACTION 2.1.3 “ENFORCEMENT AND ENRICHMENT OF ACADEMIC LIBRARIES”. The programme is co-funded by the European Community Fund (75%) and National Resources (25%). The aim of the Central Library of Alexander Technological Educational Institution of Thessaloniki (ATEI-The), which is responsible for the total management of this project, is the creation of a useful electronic tool that will promote the dissemination and

interchange of the academic output of the Institution.

Eureka's mission

“Eureka!” is an online archive that aims at containing the whole Institution of ATEI intellectual production: scientific, academic, cultural, historical and administrative, as well as other information, directly related to the Institution. Its objective is to provide advanced information, research, educational and cultural services to all of its users. Eureka! has been created in order to support e-science, the protection and interchange of scientific content, as well as the preservation of the cultural production of the Institution.

Eureka's audience

“Eureka!” IR is addressed, primarily, to its community, that is, the professors-researchers, the students and the administrative staff of the Institution. However, the information held in it can be accessed openly by all Internet users.. The subject areas of “Eureka!” are relative and respective to the several disciplines covered by the schools and departments of ATEI-THE. In addition, the collection is being enriched with cultural material, as well as material of general interest.

“Eureka!” collection and services

Currently, “Eureka!” collection holds mostly scientific publications, research results, conference material, cultural works, theses and projects, etc. of the members of the ATEI-THE community.

Subject areas covered by Eureka collections

As mentioned above, Eureka collections reflect the subject areas covered by the schools; these are the following:

- School of Business administration and economics: Here are included the following departments: Dept. of Library science and information systems, Dept. of Marketing and advertising, Dept. of Accountancy and Dept. of Tourist industry.
- School of Health and medical care: Here are included the following departments: Dept. of Aesthetics and cosmetology, Dept. of Early childhood care and education, Dept. of Medical laboratory studies, Dept. of Midwifery, Dept. of Physiotherapy, and Dept. of Nursing.
- School of Agricultural technology: Here are included the following departments: Dept. of Farm management, Dept. of Animal production and Dept. of Plant production.
- School of Food technology and nutrition: Here are included the following departments: Dept. of Nutrition and dietetics and Dept. of Food technology.
- School of Technological applications: Here are included the following departments: Dept. of Automation, General Dept. of Science, Dept. of Electronics, Dept. of Vehicle technology, Dept. of Informatics and Dept. of Civil infrastructure engineering.
- Branches of ATEI-The: Here are included the following departments: Dept. of Fashion design and production, Dept. of Fisheries and aquaculture technology, and Dept. of Standardization and transportation of products – Logistics.
- Centre of Foreign languages and Physical education.

“Eureka!” services:

- Open access to the content of our collections
- Online content submission
- Personalized services: these services require user registration to the electronic

environment of the “Eureka!” system. For this registration the user needs an email account, only. Personalized services include:

- Registration to some specific collection of the user interest.
 - Submission of scientific and other relative works to the collections of which the user is registered to.
 - Information via “newsletters” about general news or new submissions to the collections of which the user is registered to.
 - Collection management. Here, are included operations like the selection of the type of the objects to be published, control of the workflow of the objects to be published, etc.
- Collection browsing by subject, author, title and date.
 - Simple and advanced search within the content of “Eureka!”
 - Use of external search engines of scholarly publications, such as “Google Scholar” and “OAISTER”.

Finally, it is worth mentioning that the website of “Eureka!” supports the English language, so that the published reports of research have greater visibility and are understandable to foreign researchers and other interested parts, even if the language the research is written in is Greek.

Eureka's technology

The Institutional Repository presented here uses Dspace of MIT that makes use of the advantages of the Application servers and the Java programming language. It is hosted in a Linux platform that ensures better efficiency, stability and security both in transaction and data preservation level.

Software characteristics:

- Dspace 1.4
- 3-tier architecture
- Jakarta Tomcat 1.5.x Web application server
- Servlets / JSP
- PostgreSQL

Metadata

This repository uses qualified Dublin Core metadata¹. All documents are available through the OAI Protocol for Metadata Harvesting v.2.0².

“Eureka!” Overview

Project staff

Since its beginning, the project staff consists of one librarian and one computer engineer. The manager of the entire EU funded Library project supervises the creation and development of Eureka and the other sub-projects, mostly in a consultative way intervening where and when needed.

1 <http://dublicore.org>

2 <http://www.openarchives.org/OAI/openarchivesprotocol.html>

Tasks

June 2006 – December 2006³

Within this period of time the staff focused on research necessary in order to outline the general framework of the repository. The tasks appear below one by one in order of implementation:

- *International overview of repository relevant work*: this included a general follow up of all matters related to repositories (institutional repository identification, open access, intellectual property rights, policy formulation, system security, metadata issues, metrics etc.). After that, a comparative research among Greek (those existing at that time) and foreign repositories was done giving us important results that were later used for the Eureka realization. These tasks were supported by two seminars (one of them organized by the ATEI-THE Library) and a conference that Eureka staff attended.
- *Eureka repository design and implementation*: This is the initial phase of this repository design and implementation. Tasks of that step include: needs specification, repository name, policy formulation, copyright issues identification, software selection that concluded in Dspace, material submission licence design, decision on collection content, material access policy (access rights/ repository access scheme), interface design, identification of changes needed to be done, digitization of selective material, author support info, hosting and support etc.

By the end of October 2006 many of the above issues are quite clear and are presented in the poster session⁴ of “Open Scholarship 2006: New Challenges for Open Access Repositories”⁵ conference in Glasgow. By the end of the year 2006 Dspace installation is set up in its default version and functions properly; the colour of the default version is changed, though not to a desirable one; the name of the repository is decided to be “Eureka!”, the different policies (regarding data, metadata, content and preservation) are identified and the new horizontal menu that was added along with the respective info is ready. Also, some material was digitized (including the 3 serial publications of ATEI-THE) and the submission of content by the librarian started. At the same time, it was clear that the staff should make some administrative movements in order to prepare the soil for the changes that would follow. More specifically, the repository librarian, in cooperation with the project manager, designed the contract to be signed by potential submitters as well as the appropriate license. Finally, the administrative staff of all departments of ATEI-THE were informed that the whole procedure was part of their duties, too. This task was done in person by the librarian, with every member of the administrative staff. All bureaucratic procedures were completed successfully, although with slow steps and not until spring of 2007, as legal problems came up. Finally, it is worth mentioning that the first attempt for the promotion of the repository was through an article written by the repository staff and published in the ATEI-THE publication (issue 15/ Jul.- Sep. 2006⁶) that is delivered to all ATEI-The community.

Year 2007

The year 2007 appeared to have less obstacles as many issues were resolved, but, still, the staff had to face many challenges. The information that follows was extracted from the annual report (2007) of the Eureka repository.

3 Note that August is the month of holidays for ATEI-THE, and the entire staff is on holidays.

4 Poster available at: <http://hdl.handle.net/10184/141>

5 <http://www.lib.gla.ac.uk/openscholarship/>

6 This issue can be found at: <http://hdl.handle.net/10184/160> all information within the issue is in Greek.

Collection

Eureka collection has mostly scientific publications, student theses, serial publications, conference material and cultural objects.

- Collection size: 157 objects out of 197 (last count was done on 4 February 2008⁷).
- Object type:
 - from 157 objects 79 are student theses. This happens because all students are obliged to fill in the contract (mentioned above) where they declare whether they wish or not their final thesis to be published in the repository.
 - from 157 objects 17 are scientific publications. The number of this object type is low, because promotion was not as successful as expected⁸.
 - 40 out of 157 objects are serial publications, though this number is about to change because the serials are now edited in order to be indexed. The number 40 reflects the 40 issues entered in the system so far (where issue = object).
 - 21 of the 157 objects concern other material type like conference programmes, photographs and cultural material.
- Digitization: 64 out of 157 objects have been digitized.
- Open Access: All objects, except for 3, are openly accessed by all Internet users. For these 3 only metadata is available, because of their anticipated commercial exploitation by the library.

Eureka promotion

As far as the repository promotion for the year 2007 is concerned the following has been done:

- Repository promotion via e-mail that was sent to all ATEI-THE faculty.
- A link of the repository website is situated in the following websites: www.teithe.gr (the website of ATEI-The), www.ee.teithe.gr (the website of the Research Committee of ATEI-The) and of course the website of the Central Library of ATEI-The, www.lib.teithe.gr.
- About 1000 brochures that describe the services of the repository have been printed in order to be given to the ATEI-The researchers in a meeting that, unfortunately, was canceled and is about to be reprogrammed. Also, instructive material in the form of a presentation was prepared in order to be used in private small group classes given by the repository staff to researchers.
- The repository librarian and the project manager agreed with the Institution's Research Committee, that the latter would mandate the deposit of final reports of all research funded through the institution to the repository. Despite this decision, up to date some researchers refuse to submit their reports.
- Briefing to some faculty boards .
- Promotion and teaching of the repository to students of the Library Science department of ATEI-The.
- Registration of the repository into two open access repository directories: “ROAR”⁹ (Registry of Open Access Repositories) and “openarchives.gr”¹⁰ (search engine of Greek digital libraries and institutional repositories).

7 Note that these numbers could change in a daily basis.

8 See “Eureka promotion” unit for more information.

9 <http://archives.eprints.org/>

10 <http://www.openarchives.gr/> (national level directory)

Other related work

- Preparation of a repository certification on the national level and presentation of this initiative at the 16th Pan-hellenic Conference of Academic Libraries¹¹, 2007. This paper explains the reason why the Library of ATEI-THE took the initiative to propose a national certification policy for IRs. It, also, presents the main control sections and the minimum desirable criteria needed in order for an IR to be certified.
- Poster presentation of the initial phase of the project at “Open Scholarship 2006: New Challenges for Open Access Repositories”¹².
- Improvement of the repository policies.
- Development and improvement of system functions:
 - system security: SSL¹³ certification is signed by a third certification authority, Cacert¹⁴. In the operational system level a multi-level security model (grsecurity¹⁵) for attack detection and prevention has been installed. Finally, the Eureka repository uses the Grandfather/ Father/ Son¹⁶ method for keeping back-up files.
 - Bilingualism: all menus and metadata records are available in Greek and English.
 - Addition of search history feature and advanced search features.
 - Addition of item review feature.
 - Incorporation of AJAX (Asynchronous Java and XML) components to the submission form for the improvement of subject search.
 - Addition of administrator tools: a) tool for managing withdrawn items and b) tool for massive e-mail sending within the administrator and collection moderator environment.
- Berlin Declaration¹⁷ on Open Access to Knowledge in the Sciences and Humanities was signed by ATEI-The
- There is a link to the SHERPA/RoMeo¹⁸ List on publisher copyright policies & self-archiving.

Problems

- Lack of cooperation with the administrative staff of certain departments.
- Copyright impediments regarding many previously published research publications.
- Negative attitude towards the repository by many professors-researchers.
- Personally informed by the librarian researchers expected the librarian to have their work submitted.
- Lack of statistical information until November 2007; this was solved by activating the relevant system component.
- Malfunction of the AJAX component.
- The majority of professors informed about Eureka, believe that they should decide themselves whether student's final theses have research value and should therefore be included in the repository. However, they are not willing to get involved in this process as collection administrators and prefer to have their work done by librarians.

11 <http://libconf2007.unipi.gr/>

12 See footnote 3

13 <http://el.wikipedia.org/wiki/SSL>

14 <http://www.cacert.org>

15 <http://www.grsecurity.net>

16 http://en.wikipedia.org/wiki/Grandfather-Father-Son_Backup

17 <http://oa.mpg.de/openaccess-berlin/berlindeclaration.html>

18 <http://www.sherpa.ac.uk/romeo.php>

- Bureaucracy, and in many cases lack of interinstitutional communication.
- Hiring a new computer engineer: this resulted in 1-2 months loss of programming work.

Epilogue

Given the problems that appeared and the fact that two persons form the only staff developing the repository and the relevant tasks, the project course is considered as satisfactory, so far. It is worth mentioning that other Greek repositories have recognized our work and follow our example.

At the moment, Eureka Project's goal is to get the scientists and the students of the ATEI Institution to use the Institutional Repository in order to submit their work and share their knowledge and research with other researchers all over the world. Setting the self-archiving procedure as mandatory is a thought to be considered. Within the above context, the need for repository promotion seems to be imperative, though it presupposes digital service familiarized users. The Central Library of ATEI-THE and the Project team enforce collaboration between Eureka and the members of the ATEI-THE community, aiming at the constant upgrading of the already existing services of the Repository. The results of such collaboration will give added value to the Repository services and make Eureka a trustworthy information means for everyone.