

EABC – SCIENTIFIC PUBLICATIONS BIBLIOGRAPHIC ARCHIVE

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The paper intends to present eABC – Scientific Publications Bibliographic Archive of University of Aveiro'. It describes the motivation that induced its implementation, advantages for users and for all those whom the system serves. Some of the systems functionalities will be presented, along with a description on how to use them. Finally, the current status of the system - as it is being used by the University of Aveiro - will be presented, with the addition of an explanation on how this system helps in the creation of mechanisms that enable the adaptability and flexibility of systems to improve the scientific community dynamics.

Keywords: bibliographic archive; scientific publications; electronic library.

INTRODUCTION

After a set of research activities and studies, the existence of a gap between production of scientific content and his diffusion in the Portuguese-speaking scientific and academic communities have been identified. The need to give to know these documents, through telematics networks, have taken to conception and development of a system capable of fill this gap. It have been developed some applications until the appearance of eABC, with the plain objective to create a mechanism that uses and shows a consistent view of scientific production done either from universities, polytechnic institutes, national laboratories or other research & development centres.

In the first stage (2000/2001) the full support system to application was developed as well as the client interface. In the following years (2001/2002) an application support system (back office) has been developed with updates to the already developed components and added new features.

The adoption of eABC from the national academic community is possible scenery in spite of there is no guarantees that this will happen. Using the University of Aveiro as a beta-tester, the system will improve mechanisms that will possible the system's adaptability and flexibility to the scientific community dynamics. The adoption of the system by the Research Institute of University of Aveiro is helping to dynamize his utilization, encouraging the information access kept in eABC. After an experimental stage and system's improvement, it is expected the divulgation and encouragement to use eABC from all the Portuguese-speaking community. Although the system

was planned to be used by the scientific community, is also available for people in general. The site is available at <http://abc.ii.ua.pt>.

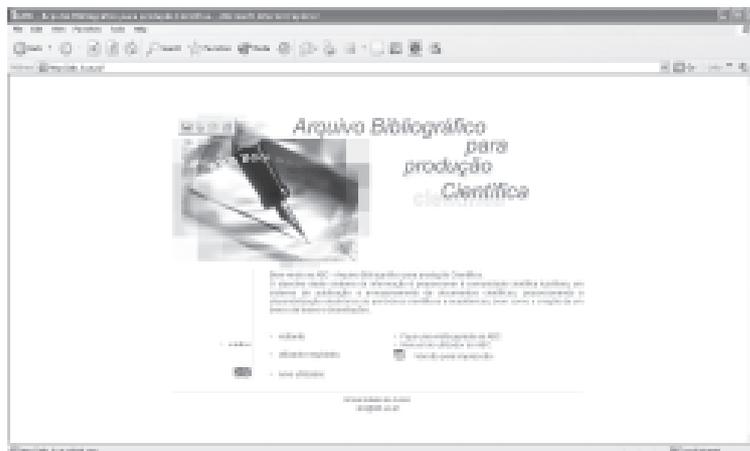


FIG. 1 - ABC WEBSITE

METHODOLOGY

The approach used to develop the system was based on the needs of the scientific community from University of Aveiro. The system allows the management, publication and storage of documents, structured according to the scientific system defined by the Foundation for Science and Technology. Anonymous and logged users are the actors that interact with the system, allowing all anonymous users to see the published content and registered users, seen as authors, to publish and access to their own documents. The published content is organized according to UNIMARC and ISBD standards.

The eABC systems development was done using a 3-tier model:

- Interface – Client (HTML, Javascript, XML, CSS)
- Processing – Web Server (ASP, XML, XSL, ADO)
- Data – SQL Server (Stored Procedures, Views and database)

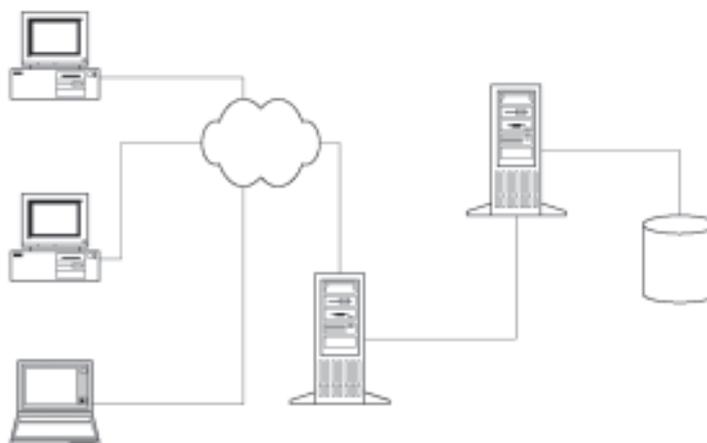


FIG. 2 - ABC SYSTEM'S ARCHITECTURE

In the client layer (interface tier) was used HTML, Javascript, CSS and XML to get a simple, consistent and easy interface. Also, the inserted data makes use of client-side validation which release server resources.

The processing layer is in the Web server, responsible for users authentication, session management and all the processed information and data in eABC. It was used de Microsoft Internet Information Server with ASP, XML, XSL and ADO. The data layer can be found in the SQL server and it is responsible for all data stored in eABC. Microsoft SQL server was used.

According to the user authentication process, registered users manage their published content and how is he available to use. Also, the search and view of published content, at this approach, is available to anyone with internet access.

The eABC system's interface considers two distinct user profiles, visitors or anonymous users and registered users with different features. The visitors, researchers or the people in general, can search all the stored info in eABC. Registered users have predominant role and are typically researchers. They are the users who 'feed' the system, inserting documents in eABC that can be uploaded to the server or just referencing them.

All the bibliographic references available in eABC are stored in a free format that allows subsequently represent the data in one of some available formats: the international standard ISBD (International Standard Bibliographic Description); Portuguese standard NP405; IEEE standard and also in SPQS. The use of this format enables eABC and his data can be adapted and incorporated in other systems that make the use of it not restricted to the Portuguese-speaking community.

DISCUSSION

Next, we will describe the current status about the system use by the University of Aveiro, the system's beta tester user for improvement and optimization, allowing adaptability, usability and flexibility of the system to the scientific community. At the end, we present the current development status such as new needs and features that are being developed and planned such as the Archival Authority Record, based on ICA's ISAAR standard. Because the simplicity of the system's architecture, some problematic issues arise such as the association of a published document to an author who is the second or third author in the document or how to associate the PhD or MSc thesis to an author who was the supervisor of those thesis. To solve this problem, we have created an authority record. Basically, the authority record uses the UNIMARC authorities standard to store the authors related with the document. At the same time, the ISBD data fields are simultaneously segmented in UNIMARC and UNIMARC authorities.

Using this approach, eABC acts also as a personal content manager. Every time a list displays an author's scientific publication, the system will take two steps:

- 1) Search all scientific content of an author, by searching his main records;
- 2) Search all scientific content of an author, by searching his authority records.

This presents all the content's author as a first author, as a secondary author or as a PhD tutor.

Also, a locale user interface system is being planned to allow the system to use the same pages for different languages to avoid file replication and development.



FIG. 3 - UNIMARC AND UNIMARC AUTHORITIES RECORDS FOR ISBD

CONCLUSIONS

Finally, the system is being used to publish all the scientific content from University of Aveiro, with the following main features:

- Produces bibliographic references lists according with the structure defined by the Foundation for Science and Technology and using national and international standards for bibliographic descriptions;
- Provides electronic versions of uploaded documents;
- Allows connections to personal web pages;
- It has recently been adopted by University of Aveiro as the official scientific publications archive, already tested in some internal research units.