DATABASE MANAGEMENT SYSTEM (DBMS) AT MAZATLAN ACADEMIC UNIT OF ICML, UNAM

German Ramírez-Reséndiz
gramirez@ola.icmyl.unam.mx

Carlos Suárez-Gutiérrez
csuarez@ola.icmyl.unam.mx

Instituto de Ciencias del Mar y Limnologia, UNAM
Unidad Academica Mazatlan
CAP Joel Montes Camarena S/N, Explanada de la Azada
Mazatlan, Sinaloa, CP 92040
Mexico

INTRODUCTION

In the last couple of years, the demand for electronic information has accelerated worldwide. Computer science and communications are allies of science and technology; consequently the ability to offer online information has multiplied.

At the Mazatlan Academic Unit of ICML, UNAM, we have been working to improve our information services. One of our first projects was setting up the Maria Elena Caso Muñoz Library online catalogs using Microsoft tools.

In order to set up web sites and manage databases, we had to determine our needs for hardware, software, and human resources. Then we had to choose development tools based on both our knowledge of them and available budget. Even with a modest budget it's possible to achieve amazing results.

ICML-Mazatlan's DBMS

The operating system to run online applications is a Windows 2000 server running Internet Server Information. The database runs on Microsoft's SQL It was the best choice considering its cost and response time when managing large databases. It also provides the ability to create interfaces from different systems such as Access and Visual Basic as well as Internet access.

Access from the Internet creates unique challenges. It required that we consider different languages in order to foster quicker development while also considering security, reliability, and high yield. We chose ASP (Active Server Pages), which we use for all of our server applications.

When we developed our system we wanted to be able to create three different kinds of interfaces to the same database:

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1. Library Management Program: We used Microsoft Access 2000 to provide basic management functions such as records of book and magazine loans and returns. This also provides statistics and basic library management information.

2. Administration Program: We used Microsoft Visual Basic 6 to add management functions such as new registers and tables, debugging existing information, making labels for bibliographic materials, and other administrative functions.

3. Online Program: We used ASP to make it easier for users to consult all of our catalogs: books, magazines, theses, memoirs, and summaries of the work of our academic personnel. This system has been operating well for a year; it has improved the response time in providing bibliographic information and allows remote users to access the material.

The DBMS project started as a test in 1999 and now serves as a host for newer systems, mainly from the online Maria Elena Caso Muñoz Library and a database providing Red Mundial de Information sobre la Biodiversidad (REMI) which belongs to Comisión Nacional sobre la Biodiversidad (CONABIO).

In 2000 the UA Mazatlan server was integrated as a regional node for the REMIB distributed database. It provides databases about marine sciences which have been compiled by investigators from different academic institutions.

Our library provides different options to access catalogs for books, magazines, theses, memoirs, and scientific research. The main idea is to provide a simple interface for inexpert users. The databases also provide access to UNAM's electronic journal subscriptions based on IP addresses.

New projects include enhancing online services to include books generated in the institution and other materials, the design of new databases that will meet the scientific information needs in our academic community, and integrating new technologies with the goal of making electronic access easier for our users. We also plan to convert information from our database to standard international formats for bibliographic catalogs compatible with the ANSI/NISO Z39.50 protocol which will better allow us to provide access to our catalogs to IAMSLIC.