The Digital Pacific Rim Library of the University of California, San Diego

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Abstract

In collaboration with multinational partners, the Libraries of the University of California, San Diego have begun development of a digital Pacific Rim Library in support of education and research in international studies.

1. Introduction

The Libraries of the University of California, San Diego (UCSD) have begun development of a digital Pacific Rim Library (http://libraries.ucsd.edu/prl) in support of education and research in international studies. This library has been planned as a virtual library that delivers collections and services in digital format over the Internet. The intent is to develop a fully functional library but with the important distinction that it will not reside in a building and there will be no books on shelves.

2. Partners

This has been a multinational effort with collaboration among libraries and commercial ventures in Australia, Canada, China, Japan, Korea, Mexico, Singapore, Taiwan, and the United States. In particular, the UCSD Libraries have collaborated with the San Diego Supercomputer Center, OCLC Online Computer Library Center, and with members of the Pacific Rim Digital Library Alliance (http://www.prdla.org) whose members include:

- Academia Sinica, Taipei
- Australian National University Library, Canberra
- El Colegio de Mexico Library, Mexico City
- Keio University Library, Tokyo
- National University of Singapore Library
- Peking University Library, Beijing
- Seoul National University Library
- University of British Columbia Library, Vancouver
- University of California, Berkeley Library
- University of California, San Diego Libraries
- University of Hong Kong Libraries
- University of Washington Libraries, Seattle
- Zhongshan University Library, Guangzhou

3. Content

We have leveraged diverse cultural and linguistic expertise and have shared resources and development expenses in order to create a Pacific Rim Library that is multicultural and multilingual in content. The initial implementation includes the following digital libraries and online tools:

- Multilingual gateway
- Romax
- Bibliography of East Asian Studies
- Scripta Sinica
- Pacific Explorations Archive
- Sikuquanshu
- Beijing SuperStar Digital Library

Each of these information resources and online tools represents a technical project and solutions that can be generalized to other applications.

3.1 Multilingual Gateway

This tool is client software that enables access to library catalogs and information resources regardless of language or national character encoding standards. The gateway has been implemented for Chinese, English, Japanese, Korean, and Spanish. Arabic is in development and will be implemented. Connections among systems are based on the International Standard Protocol for Information Retrieval (ANSI/NISO Z39.50 and ISO 23950). The OCLC Online Computer Library Center has built upon research by UCSD to extend the capabilities of the multilingual gateway.
3.2 Romax

This simple tool provides intra language support. It is a Java applet that allows the user to easily convert among Chinese romanization schemes (Pinyin, Wade-Giles, Mandarin Phonetic Symbols II) to facilitate roman alphabet to Chinese information resources. As an example, a single Chinese character might be represented as “qing” in Pinyin and as “ch’ing” in Wade-Giles. It is not typical for an individual to know more than one romanization scheme. This tool facilitates inquiry using an unfamiliar scheme.

3.3 Bibliography of East Asian Studies

The Bibliography is an index of Western language journal articles that was created by Tim McGuire of Stanford University. PRL makes this resource available via the internet.

3.4 Scripta Sinica

These digital library databases from Academia Sinica, Taiwan began as a Chinese full-text network application prior to the development of WWW protocols. UCSD is providing a mirror site to enable viable internet response times for those without a fast link to Taiwan.

3.5 Pacific Explorations Archive

The Archive is a collaborative project of the Pacific Rim Digital Library Alliance. Content is focused on research and exploration related to the Pacific Rim and surrounding countries. The original project plan has evolved to become a web site with pointers to diverse resources as each of the participants have begun to develop the local capability to support digital libraries.

3.6 Wenyuange Sikuquanshu

We have created a networked version for the digital Qing Palace Wenyuan Library. Both full-text and scanned images are available online for these 3,700 classical Chinese books. There are sophisticated online tools to support scholarly research including full text and an array of indexed searches as well as a pronouncing dictionary and elegantly formatted displays. These tools necessitate a proprietary client. Access is restricted by license.

3.7 Beijing SuperStar Digital Library

Beijing SuperStar has created scanned images of the text of over 100,000 contemporary Chinese books, which may make it the largest Chinese digital library of monographs. 3,500 are now online at the PRL site, and the UCSD Libraries intend to add another 20,000 in the near future. Access will be restricted by license.

4. Technical collaboration

These projects have involved significant technical collaboration. The San Diego Supercomputer Center has provided servers and the technical environment to enable network access to substantive digital resources. Internet 2 access is delivered via NT and Linux servers connected to 650 GB fiber-channel storage. The technical environment is relatively simple and easily scalable. We have also worked closely with OCLC Online Library Computer Center to develop the multilingual gateway and with the creators of the digital library content to develop networked access to those resources. We have demonstrated that we can deliver useful and varied scholarly resources through a single Web site even though those resources rely on multiple proprietary interfaces and file structures.

5. Costs

The major collections – Sikuquanshu, Superstar, Scripta Sinica – cost millions of dollars to develop. The other resources, e.g., Romax and the Bibliography, cost less to develop but nonetheless they were not inexpensive. However, the total cost for the hardware at the San Diego Supercomputer Center and the cost of the software and the license fees for the content has been less than $200,000. Using this relatively modest sum, we have leveraged international collaboration to create internet access to expensive scholarly resources.

6. Conclusion

The Pacific Rim Library project illustrates that political, linguistic, legal, financial, geographic, and technical obstacles can be overcome through collaborative, practical projects.