

行政院所屬各機關出國人員報告書  
(出國類別：國際會議)

參加「亞太裔美人圖書館員協會國際研討會 NCAPAL」及

「美國圖書館學會 2001 年年會」報告書

(中華民國 90 年 6 月 11 日至 20 日)

行政院研考會 / 省(市)研考會 編號欄
CI / CO9004146

服務機關：國家圖書館  
出國人員：姓名 / 陳昭珍  
                  職稱 / 主任  
出國地點：美國舊金山  
出國日期：90 年 6 月 11 日至 6 月 20 日  
報告日期：90 年 6 月 30 日完成  
                  90 年 11 月 30 日增修

出席「亞太裔美人圖書館員協會國際研討會  
NCAPAL」及「美國圖書館學會 2001 年年會」

報告書

報告人：陳昭珍

2001/June/11 – 2001/June/20

一、亞太裔美人圖書館員協會(CALA) National Conference on  
Asian Pacific American Librarian (NCAPAL) 會議

1. 會議源起

此次會議是由 Chinese American Librarians Association (CALA)及 Asia/Pacific American Librarian Association (PALA) 一起合辦，也是 CALA 努力改變形象的作法。往年的 CALA 給人的感覺是一個聯誼性質的學會，最著名的活動就是辦一個成功的晚餐會，爲了提昇 CALA 的學術水準，今年 CALA 舉辦了一次亞太裔美國圖書館員學術研討會，會議在舊金山凱悅飯店舉行，自六月十三至六月十五止爲期三天，共約有在美的華人、日本人、韓國人、印度人、馬來西亞人等不國國家的學者專家二、三百人參加。

2. 論文發表

此屆的 NCAPAL 會議的主題共有二十項，論文發表者將近一百人，規模相當大，二十大主題內容如下：

- 1.1 Getting Your Piece of Pie: Grant Making and Grant Writing
- 1.2 Gathering at the Water: Ethnic Coalition Building
- 1.2 Information Needs and Services for APA Children and Young Adults
- 1.4 Access and Retrieval of Asian American Resources (Contributed Papers)
- 2.1 Emerging Issues on Information Technology
- 2.2 Career Choice: When I Grow Up I Want to be an APA Librarian
- 2.3 Public Services and Outreach Programs (Contributed Papers)
- 2.4 Heritage at Work: Putting Culture into What We Do

系統識別號:C09004146

公 務 出 國 報 告 提 要

頁數: 8 含附件: 是

報告名稱:

出席美國圖書館學會第一二〇屆年會暨美國地區圖書館員會議

主辦機關:

國家圖書館

聯絡人/電話:

/

出國人員:

陳昭珍 輔導組 編審兼代組主任

出國類別: 其他

出國地區: 美國

出國期間: 民國 90 年 06 月 11 日 -民國 90 年 06 月 20 日

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分類號/目: C1/社會教育(圖書館、成人教育) C1/社會教育(圖書館、成人教育)

關鍵詞: 美國圖書館學會年會

內容摘要: 本報告主要說明參加亞太裔美人圖書館員協會(CALA)National Conference on Asian Pacific American Librarian(NCAPAL)會議, 及美國圖書館學會2001年年會之心得, 並附上於NCAPAL發表之論文及投影片, 以及在ALA年會海報展上參展的海報及簡介資料。

本文電子檔已上傳至出國報告資訊網

- 3.1 APA Contributions in American Librarianship (Contributed Papers)
- 3.2 Words Matter ... Storytelling by APA Literary Award Winning Authors
- 3.3 Shattering the Glass Ceiling: Diversity and Mid-Level Career Development
- 3.4 Transborder Studies (Contributed Papers)
- 4.1 Network Resources Sharing: The Taiwan Experience
- 4.3 Freedom of Information: A Uniquely American Value?
- 4.3 Digitizing APA Cultures and Heritages (Contributed Papers)
- 4.4 Community Ties: Creating, Collecting and Sharing Asian American Collections
- 5.1 Resources Sharing and Interlibrary Cooperation (Contributed Papers)
- 5.2 Ginny's Conversation with Award Winning Leaders
- 5.3 New Ideas and Issues in Library Services and Training (Contributed Papers)
- 5.4 Pinyin and East Asian Language Issues in Generalist Libraries

台灣代表共有八人參加(黃世雄、楊美華、吳美美、陳昭珍、柯皓仁、宋雪芳、周邦喜(文華)、劉毓欣(資策會))，且由吳美美教授、陳昭珍教授、柯皓仁教授發表三篇論文，於 Friday, June 15, 8:30 AM - 9:45 AM 的場次：**Network Resources Sharing: The Taiwan Experience** 發表，論文題目分別為：

Chao-chen Chen, Head, Reader Services, National Central Library and Associate Professor of National Taiwan Normal University

" Digital Knowledge and Knowledge Economy"

Hao-Ren Ke, Associate Professor of National Chaio-Tung University

"User-Initiated Interlibrary Loan Networking System in Taiwan"

Mei-Mei Wu, Associate Professor of National Taiwan Normal University

"PLISNET -- Foundation for Public Library Resource Sharing."

本人所發表的論文主要在介紹政府的知識經濟計畫，以及國內圖書館、國科會等相關知識建設工作，論文內容摘要如下：

### Digital Knowledge and Knowledge Economy

Chao-chen Chen

Head, Reader Services, National Central Library

Associate Professor of National Taiwan Normal University

## Abstract

The advent of information technology in the latter half of the 20<sup>th</sup> century ushered in a new era, an era in which information and knowledge is the driving favor of all development. We understand that, because we witness traditional industries are in the demise and the knowledge industries are on the rise. So knowledge-based economy is inevitable for Taiwan. Recently, our government has endeavored in developing information society and also has proposed plans for developing our knowledge-based economy, and aim to increase competitiveness and scientific excellence in order to generate higher levels of sustainable growth and productivity in a modern economy. Creating local databases are one of plans of knowledge-based economy of our government.

To develop knowledge-based economy we need knowledge, and we know no information, no knowledge. Researches usually involve a lot of literature searching. School teaching should be learning resource oriented instead of teaching resource oriented. Life-long learning also uses information in various aspects. Therefore, abundant and accessible information is the foundation for knowledge society

Libraries with rich and accessible collection will help people to think and innovate. This gives the society the ability to compete. Especially, libraries supply information equally and freely to public and shorten the knowledge lag of public. To meet the need of user in the digital age, National Central Library has established many important information systems. Besides, in order to share collection efficiently, a stable and efficient ILL mechanism is very essential. The Science & Technology Information Center (STIC) of the National Science Council (NSC) and National Chiao-Tung University (NCTU) develop cooperatively the ILL System and ILL Service Center. In addition to resources of libraries, universities and museums also have rich culture heritage. In July 1998, National Science Council (NSC), launched Digital Museum Project (DMP), furthermore, from 2000, NSC start National Archive Program. Those projects provide fund for institution to create digital museum systems and digitize collections.

(論文全文及簡報檔參見附件一、二)

## CONFERENCE SCHEDULE AND LOCATION

### Grand Hyatt Hotel

Wednesday, June 13, 2001

Time	Program/Event	Location
12:00 - 1:00 pm	Registration for Preconferences	San Francisco C
12:00 - 6:00 pm	General Conference Registration	San Francisco C
1:00 - 6:00 pm	Preconference I: Leadership Institute (Sponsored by Ms. Sheila S. Lai)	Group A: San Miguel Group B: Potrero
1:00 - 6:00 pm</	Preconference II: Marketing Research for APA Community	Butron
6:30 - 8:30 pm	Welcome Reception Entertainment featuring Charlie Chin	San Francisco Public Library

	Hosted by San Francisco Public Library; (Entertainment sponsored by Pan Asian Publications USA)	(100 Larkin St.)
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Thursday June 14, 2001

Time	Program/Event	Location
7:30 - 5:00 pm	Conference Registration	San Francisco C
10:00 am - 6:00 pm	Exhibits/Poster Session	Farallon, Merced A&B
10:00 am - 6:00 pm	<u>Author Book Signing</u>	Merced A&B
8:30 - 10:00 am	Opening Ceremony featuring <u>Phoebe Eng</u> (Sponsored by OCLC AsiaLink Services)	Plaza Ballroom West
10:00 - 10:15 am	Exhibit Opening ceremony	Farallon
10:15 - 11:30 am	Concurrent Session 1	
Session 1.1	Getting Your Piece of Pie: Grant Making and Grant Writing	Conference Theatre
Session 1.2	Gathering at the Water: Ethnic Coalition Building	Dolores
Session 1.3	Information Needs and Services for APA Children & Young Adults	San Miguel
Session 1.4	Access and Retrieval of Asian American Resources (Contributed papers)	San Francisco A&B
11:30 am - 12:30 pm	Exhibits/Poster session. (no conflict time)	Farallon, Merced A&B
11:30 am - 12:30 pm	Poster Session I	San Francisco C
12:30 - 2:00 pm	Luncheon featuring <u>Emil Guillermo</u> (Sponsored by SIRSI Corp.)	Plaza Ballroom West

2:15 - 3:30 pm	Concurrent Session 2	
Session 2.1	Emerging Issues on Information Technology	Conference Theatre
Session 2.2	Career Choice ... When I grow up I want to be an APA Librarian	Dolores
Session 2.3	Public Services & Outreach Programs (Contributed papers)	San Miguel
Session 2.4	Heritages at Work: Putting Culture into What we Do	San Francisco A&B
3:30 - 3:45 pm	Break	
3:45 - 5:00 pm	Concurrent Session 3	
Session 3.1	APA Contributions in American Librarianship (Contributed papers)	Conference Theatre
Session 3.2	Words Matter: Storytelling by Literary Award Winning Authors	Dolores
Session 3.3	Shattering the Glass Ceiling: Diversity and Mid-Level Career Development	San Miguel
Session 3.4	Transborder studies (Contributed papers)	San Francisco A&B
5:00 - 6:00 pm	Exhibits (no conflict time)	Farallon, Merced A&B
5:00 - 6:00 pm	Poster Session II	San Francisco C
6:30 - 8:30 pm	Banquet featuring <u>Honorable Yvonne Lee</u> (Sponsored by Institute for Teaching Chinese Language and Culture)	New Asia Restaurant
8:30 - 11:00 pm	Awards and Legacy GALA (GALA sponsored by Brooklyn Public Library) (Entertainment sponsored by Pan Asian Publications (USA), Inc ) (Literary Awards sponsored by Highsmith, Inc ) (Leadership Awards sponsored by Dr. ching-chih Chen) (Scholarships sponsored by ALA Executive Director Office)	New Asia Restaurant

Friday, June 15, 2001

Time	Event	Location
7:30 -11:00 am	Conference Registration	San Francisco C
8:00 am - 12:00 pm	Exhibits	Farallon, Merced A&B
8:00 am - 12:00 pm	<u>Author Book Signing</u>	Merced A&B
8:30 - 9:45 am	Concurrent Session 4	
Session 4.1	Network Resources Sharing: The Taiwan Experience <i>(Sponsored by Library Association of China, Taiwan)</i>	Conference Theatre
Session 4.2	Freedom of Information: a uniquely American value?	Dolores
Session 4.3	Digitizing APA Cultures and Heritages (contributed papers)	San Miguel
Session 4.4	Community Ties: Creating, Collecting, and Sharing Asian American Collections	San Francisco A&B
9:45 - 10:00 am	Break	
10:00 - 11:15 am	Concurrent Session 5	
Session 5.1	Resources Sharing and Interlibrary Cooperation (Contributed papers)	Conference Theatre
Session 5.2	Ginny's Conversation with Award Winning Leaders <i>(Sponsored by Ken &amp; Karen Lee Family Fund)</i>	Dolores
Session 5.3	New ideas and Issues in Library Services and Training (Contributed papers)	San Miguel
Session 5.4	Pinyin and East Asian Language Issues in Generalist	San Francisco A&B
11:30 am - 12.30 pm	Closing Ceremony featuring <u>Eugenie Prime</u>	Plaza Ballroom West



## 二、美國圖書館學會 2001 年年會

NCAPAL 一結束，美國圖書館學會年會立即上場，地點也是在舊金山，時間與 NCAPAL 相連，所以本國的代表除了柯皓仁教授先回國外，其他的人繼續參加 ALA 的年會。此次年會臺灣代表所參加的活動主要是由國家圖書館所做的海報展，相較於 1999 年的年會，臺灣參加的活動有國家圖書館的書展、海報展、學者論文報告等熱鬧的場面而言，臺灣的圖書館界可說大量委縮國際圖書館活動的參與層面。

### 1. 海報展 *As the Foundation of Knowledge Society the Current Status and Future Development of Network Information Services of Library in Taiwan*

本屆的 ALA 會議和往來一樣，有來自美國、加拿大及世界各地代表上萬人，台灣代表共有七人參加，並由國家圖書館以「*As the Foundation of Knowledge Society*」為題參加海報展，海報展的時間是六月十七日上午十一時至十二三十分，在一個半小時的時間內，參展者主要是以海報及小冊子等資料介紹自己的發展狀況。(海報內容、小冊子參見附三、四、五)

### 2. 參觀展覽

展覽是 ALA 最吸引人的地方，此次參展的廠商將近五千個，從出版社，圖書館設備供應商到系統廠商、電腦廠商、遠距教學甚至圖書資訊或圖書資訊研究所等都有，琳瑯滿目，非常壯觀。公司越大的攤位越大，如大的出版商:H. W. Wilson, R. R. Bowker, Gary, ProQuest。在眾多的參展攤位中，我特別對下列幾個攤位有興趣。一個是加州州立圖書館的 e-reference 系統，此系統是由加州圖書館聯合發展的系統，使用者可以透過瀏覽器直接與參考館員對話，詢問問題，而參考館員也直接在網路上利用相關資源如蒐尋引擎電子資料庫等查詢讀者的問題並將答案送回給讀者。整個介面設計相當親和，讀者可以看到與館員對話的畫面及對話的所有歷史，也可以看到館員查尋的過程及傳送回來的資料。

另一個對國家圖書館而言可能會有用的廠商是 Automated Storage and Retrieval 的廠商。使用這種系統多半是在圖書館新館設計時即已考慮。因為自動提書系統是和儲存系統合為一體的，它的書庫及書架並非一般普通的書庫或密集書庫，而是特別設計用來以機器人提書的系統，書庫及書架外形看起來像貨櫃而不像圖書館，相當的壯觀，提書的速度約為四分鐘，提書及書庫管理完全自動化不用人工，這對閉架式的圖書館而言應該是很不錯的管理方式。

此外，利用書籍文具等造形設計成圖書館兒童閱覽室的傢俱廠商也很特別，

不但美觀有文藝氣習，所用的塑膠材質也非常安全，不過造價也是不便宜的。

自己會讀的書也很有趣，不但保有書的原樣，還與電腦結合可以整本閱讀也可以閱讀理面任何圖樣，很適合發展雙語的國小或兒童圖書館使用。

美國國會圖書館也有一個攤位展出他們的 American Memory, Catalog Distribution Services, Blind user services。圖書館學校來參展的有伊利諾大學香檳分校，除了介紹學校的課程外也宣傳其遠距教學課程，在臺灣也可以留學。

### 3. 研討會

ALA 的研討會因為場次太多了，所以每年的舉辦方式都是分散在鄰近的幾個旅館舉行，為了便於加者往來於不同的旅館，舉辦單位會安排好遊覽車來回的往來於各路線，參加會議的人必需事先規畫好要聽那幾場，在那個旅館，要搭幾路車，否則會覺得浪費時間，不停的在趕場，最好是一天只在一個旅館聽相同議題的研討。

每年的研討會都會有 International Session, 今年此場次共有八個國家的專家做報告，其中特別讓大家印像深刻的是馬來西亞的報告 如何將 local wisdom 帶入圖書館，所謂的 local wisdom 就是指當地的器物，而圖書館則利用這些有地方特色的造形設計成圖書館的傢俱，相當有特色。

### 4. 參觀

此次會議位於舊金山，所以理所當然的參觀了三所著名的圖書館：柏克萊大學圖書館、史丹佛大學圖書館、舊金山公共圖書館。

附件一

## **Knowledge-based Economy and Digital Knowledge**

Chao-chen Chen

Head, Reader Service Dept.

National Central Library

### **1. Knowledge-based economy and Information**

The advent of information technology in the latter half of the 20<sup>th</sup> century ushered in a new era, an era in which information and knowledge is the driving favor of all development. We understand that, because we witness traditional industries are in the demise and the knowledge industries are on the rise. So knowledge-based economy is inevitable for Taiwan. Recently, our government has endeavored in developing information society and also has proposed plans for developing our knowledge-based economy, and aim to increase competitiveness and scientific excellence in order to generate higher levels of sustainable growth and productivity in a modern economy. Creating local databases are one of plans of knowledge-based economy of our government.

To develop knowledge-based economy we need knowledge, and we know no information, no knowledge. Researches usually involve a lot of literature searching. School teaching should be learning resource oriented instead of teaching resource oriented. Life-long learning also uses information in various aspects. Therefore, abundant and accessible information is the foundation for knowledge society.

Libraries with rich and accessible collection will help people to think and innovate. This gives the society the ability to compete. Especially, libraries supply information equally and freely to public and shorten the knowledge lag of public. To meet the need of user in the digital age, National Central Library has established many important information systems. Besides, in order to share collection efficiently, a stable and efficient ILL mechanism is very essential. The Science & Technology Information Center (STIC) of the National Science Council (NSC) and National Chiao-Tung University (NCTU) develop cooperatively the ILL System and ILL Service Center. In addition to resources of libraries, universities and museums also have rich culture heritage. In July 1998, National Science Council (NSC), launched Digital Museum Project (DMP), furthermore, from 2000, NSC start National Archive Program. Those projects provide fund for institution to create digital museum systems and digitize collections.

Details of those system or projects were introduced as following:

## **2. Database of NCL <sup>1</sup>**

### **(1). International Standard Book Number Network (ISBNnet)**

<http://www.ncl.edu.tw/isbn>

ISBNnet provides ISBN/CIP bibliographic records and publishers' data for publications released in the Taiwan area.

### **(2). International Standard Recording Code Network**

<http://isrc.ncl.edu.tw>

From ISRC you can get bibliographic records on sound and music video recordings and information on record companies in Taiwan.

### **(3) National Bibliographic Information Network (NBINet)**

<http://nbinet.ncl.edu.tw>

NBINet is a bibliographic resource sharing network composed of 46 college and university libraries, 10 special libraries, 13 public libraries and the National Central Library of Taiwan. The union catalog of NBINET contain more than 2.5 million bibliographic records , encompassing library materials on diverse subjects in Chinese, Japanese, Korean, and western languages.

### **(4) Dissertation and Thesis Abstract System (DATAS)**

<http://datas.ncl.edu.tw>

DATAS is a database of the dissertations and thesis abstracts of graduate and postgraduate students at the 70 colleges and universities in Taiwan. The database is regularly augmented with dissertations uploaded by the students themselves at the time of their graduation. Until now, this database has about 170,000 records , including bibliographies, tables of contents, abstracts and references, and about 7,000 full-text dissertations published since 1999 which may be freely accessed online and downloaded within Taiwan.

### **(5) Remote Electronic Access/Delivery of the National Central Library (READncl)**

<http://www.read.com.tw>

<http://readopac.ncl.edu.tw>

READncl is an online document delivery system providing 24-hour access to Chinese periodicals, government publications, Taiwanese authors information, and Taiwanese artists at the National Central Library. This system contains more than 1.7 million bibliographic records and about 11 million full-image pages of documents available for online display, printout, fax or mail delivery.

### **3. Interlibrary Loan Networking System for Taiwanese Libraries (ILL System) and Interlibrary-Loan Service Center (ILL Service Center)**

Although Taiwan libraries already formed an interlibrary cooperation association and copy articles for user each other, the traditional ILL process was slow, and user need to wait about 1-2 weeks to get an article copy. To expedite the ILL process, improve the patron service, and reduce the workload of librarians, the Science & Technology Information Center (STIC) of the National Science Council (NSC) and National Chiao-Tung University (NCTU) develop cooperatively the ILL System and ILL Service Center. The ILL System has the following characteristics:<sup>2</sup>

- (1) WWW-based working environment and centralized database  
The system is WWW-based; therefore, patrons and librarians do not need to install additional software other than WWW browsers to use it. By connecting to the WWW server of the ILL System, patrons and librarians can perform ILL-related actions from anywhere in 24 hours per day and seven days per week (without restriction on the opening hours of libraries).
- (2) Integrated union catalogs  
Two union catalogs are linked to the ILL System in order that patrons can query them to know the owning libraries of the materials they need. The first is a serial union catalog comprising about 30,000 journal titles (foreign, Taiwanese, and Mainland China journals) owned by 300 more Taiwan libraries; this serial union catalog is compiled by STIC. The second one is NBINET (National Bibliographic Information Network), a book union catalog managed by National Central Library. NBINET is the achievement of a cooperative cataloging program participated by 60 more Taiwan libraries.
- (3) Patron-initiated material requests  
The system permits patrons to submit ILL requests online. When requesting a material, a patron may search the union catalogs first to identify the owning libraries of the material. He can then fill out an online form to place his request. When filling out the request form, the system will pass the bibliographic and holding information of the material automatically from the union catalogs; in this manner, patrons can save the time and reduce the potential errors to write the form. As the union catalogs are not 100% correct, a patron can also fill out a blank

request form.

### 3. Digital Museum Projects

In July 1998, National Science Council (NSC), launched Digital Museum Project (DMP) as part of the "Greeting a New Millennium--A 21st Century Science Development Program with Concern for the Humanities as a Main Theme." Since one out of every five people in the world speaks Chinese, Taiwan government would like to take advantage of the well-preserved Chinese cultural heritage, to establish and promote our unique feature, and to become a provider of Chinese content.<sup>6</sup> Hence, NSC has placed the focus of digital museum promotional efforts into the establishment and enhancement of Chinese content with emphasis on Taiwan. Along with the Internet popularity and global trend, NSC hopes to establish demonstration websites featuring culture, art, science and technology. Furthermore, to promote dissemination of quality information through Internet, so information will be accessible to all who are interested. Through users' willingness to learn, these contents may be able to enrich people's lives, to promote a global outlook, and to allow everyone to enjoy the fulfillment of lifelong learning. The NSC also hopes that the promotion of "digital collections" will motivate the technology development of domestic multimedia and content industry.

#### (1) Digital Museum Project Phase I

The Digital Museum Project (DMP) was inaugurated in July 1998, and it was carried out from October 1998 to September 1999. During the review process of the proposed projects, in addition to the topic feature itself, whether or not the collections have been digitized is also a significant factor. Each project is a collaborative effort of its team members, such as content selection, metadata design, scenarios scripts, web page design, technical implementation, and so forth. These projects can be classified into two categories: natural science and culture; and the category for the culture can be further specified into local Taiwanese culture and traditional Chinese culture. Through these topic-based projects, NSC hopes to enhance educational culture/art/science contents on the Internet<sup>8</sup>. Topic-based projects under the first year's DMP can be summarized as shown in Figure 1.

**Figure 1. Topic-based projects under the first year's DMP**

Project Title	Natural	Culture
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	Science	Taiwanese Culture	Chinese Culture
1. Discovery of Tamsui River		√	
2. Taiwanese Aborigines--The Ping-pu Group		√	
3. Butterfly Ecology	√		
4. Native Plants and Fishes of Taiwan	√		
5. Understanding Ancient Texts--The Written Knowledge Network			√
6. An Immortal Palace--Han Dynasty Culture and Burials			√
7. Firearms and Ming-Ching Dynasty Warfare			√

Following is a brief description of each project:

**a. Discovery of Tamsui River (National Taiwan University)**

URL: <http://d1m.ntu.edu.tw/tamsui/>

Through multi-media, technology of virtual reality and team effort of the Dept. of History, Library and Information Science, and Computer Science of National Taiwan University, this digital museum presents the history, geography, ecology environment of Tamsui River, and the city development and population movement around the basin. Goal of this project is to provide interesting and relevant historical materials for elementary and middle school students.

**b. Taiwanese Aborigines--The Ping-pu Group (Academia Sinica)**

URL: <http://www.sinica.edu.tw/~pingpu/>

For the past ten years or so, people in Taiwan have been increasingly interested in their own land, including history, culture, aborigines, etc. Among the Taiwanese aborigines, Ping-pu is a major tribe because of its geography distribution and locations. Hence, it has been widely studied by many academic institutions. This digital museum is a joint effort of experts from different fields, such as: anthropology, history, geography, archeology, linguistics, music, literature, religion and ethnomusicology. Through this project, research results on Ping-pu are being integrated and incorporated on the web, so the public can learn to appreciate the aboriginal culture and understand the relationship between Ping-pu and Han (Chinese) People.

**c. Butterfly Ecology (National Museum of Natural Science and National Chi-Nan**

University)

URL: <http://digimuse.nmns.edu.tw/>

Taiwan is known as the 'Butterfly kingdom'. This project, a joint effort by National Museum of Natural Science and National Chi-Nan University, aims to develop a comprehensive butterfly database as a step to share our rich collections of Taiwan Butterflies with the world. Users may browse butterfly information and search a butterfly by its shape, color or image.

**d. Native Plants and Fishes of Taiwan (Academia Sinica)**

URL: <http://www.sinica.edu.tw/~hastwww/> and

<http://fishdb.sinica.edu.tw/~fishdmp/>

Plants: Taiwan is known as 'Formosa', a beautiful island with diverse plant ecology. The purpose of this project is to digitize native plant specimens (it has 32,000 records as of 1998) and place relevant information on the web, thus to arouse public interest about native plants of Taiwan and to promote public awareness of environmental protection. Users may conduct a search by the plant's scientific name, common name, collector, place of collection, or date of collection.

Fishes: Taiwan is surrounded by ocean and sea, and there are more than 2,500 fish species. This web site presents the shapes, ecology and distribution of native fishes, which enhances teaching and research of local fishes and their preservation. Users may search a fish through its name, shape or genealogy.

**e. Understanding Ancient Texts--The Written Knowledge Network (by Academia Sinica)** URL: <http://www.dmpo.sinica.edu.tw:8000/~words/>

Chinese has abundant heritage on ancient texts. Through this web site, users may browse the ancient texts and search ancient poems/prose by a vocabulary, a phrase, or a sentence. Database contains The Four Books, Lao-tzu, Three hundred Selected Poems of the Tang Dynasty, and other ancient writings.

**f. An Immortal Palace--Han Dynasty Culture and Burials (Academia Sinica)**

URL: <http://www.sinica.edu.tw/~hantomb/>

Tombs express memories from the living to the dead; and it is a miniature of the local culture during that time. Thus, through findings of the tomb excavation, viewers may gain some understanding about the ancient culture. This project introduces the research results, statistic analysis and reference books of Han Dynasty Tombs. Through the virtual reality, people will know how to distinguish among tomb structures, their origins, cultural background, and why burial rituals were such a solemn matter during that time.



**g. Firearms and Ming-Ching Dynasty Warfare (National Tsing Hua University)**

URL: <http://vm.nthu.edu.tw/digi.museum/>

While browsing this web site, it takes users back to the 16<sup>th</sup> or 17<sup>th</sup> century--to the ancient battlefield--accompanied with the roaring thundering of firearms. This site offers two versions targeted to the public and researchers/scholars. Firearms are presented from perspectives of mathematics, physical science, and history.

In addition, four projects were initiated to provide technical support for the above projects.

**a. Resources Organization and Searching Specification (ROSS, National Taiwan University)** URL: <http://ross.lis.ntu.edu.tw/>

This project provides technical support to all the projects mentioned above. The aims of ROSS are to study relevant issues on information organization and retrieval in Chinese digital libraries/museums, which include data storage and management system design, user demand and retrieval behaviors, and integrated retrievals across different systems.

The results that ROSS achieved in 1998-1999 are as follow:

- (1) Development of a Dublin Core-based metadata format, Metadata Interchange for Chinese Information (MICI-DC);
- (2) MICI-DC XML DTD;
- (3) Metadata management system prototype, Metalogy (XML/metadata input and database management);
- (4) MICI Z39.50 Profile;
- (5) Z39.50 Client/Server prototype; and
- (6) Authority files.

**b. Electronic Cultural and Natural Resource Atlas (Academia Sinica)**

URL: <http://www.sinica.edu.tw/cc/gis/dlm/>

This project provides technical support for topic-based projects no.4 and no.6, which are related to time and space. This project was launched to establish a mainframe for spatial information processing, and to structure content space of time/space and relevant guidelines and standards.

**c. Digital Collection System Technology Development (Academia Sinica)**

URL: <http://dl.iis.sinica.edu.tw/dlroot/>

Purpose of this project is to integrate various digital museum projects within

Sinica (topic-based projects no.2, no.4 and no.6) by frequent communications with project staffs and to establish a multi media digital collection management system suitable for Chinese users.

#### **e. Research on System Evaluation Standard (National Taiwan University)**

In order to meet user need, various aspects of digital library/museum systems (i.e. hardware, content, function and interface) should be carefully evaluated; thus to improve its system and service quality. The purpose of this project is to develop an evaluation standard and system evaluation methods; hence, to provide system evaluation guidelines for DMP projects. 'Discovery of Tamsui River' was used for empirical studies on user behaviors of information retrieval.

In addition to the topic-based projects and technical support projects, DMP Extension is serving as a bridge for library/museum communities, teachers, industries, and DMP staff.<sup>9</sup> For example, DMP Extension shares knowledge and technology of digital libraries/museums and promotes project results to library/museum communities, teachers, and industries. During this period, it sponsors several workshops to provide trainings among the DMP staff, library/museum professionals, elementary- and middle-school teachers, multi-media industry and content industry. Hence, DMP staff may be able to gain the knowledge about the features of collections, to understand the needs of teachers and incorporate the concept of user-orientation into their web, and to know the services available through the industry. Similarly, other communities may better understand the goals and directions of DMP. Besides publicity and promotion, DMP Extension is working on education as well. It held a dozen of workshops and training courses targeted at digital collection personnel and school teachers.<sup>10</sup> As a result, library/museum professionals may have the know-how in digitizing and cataloguing their collections; and elementary- and middle-school teachers may have the knowledge and skill on utilization of web resources and incorporate those materials into teaching. Furthermore, DMP Extension sent out e-news to announce current events of DMP, promote concept and knowledge of digital library/museum, and enhance public interest of digital libraries/museums.

#### **(2) Digital Museum Project Phase II**

Call for proposal for the second year of DMP was announced in spring 1999. Out of more than 90 proposals, twelve projects were selected with considerable cultural coverage (Figure 2)<sup>11</sup>. Projects no.3, no.8, no.9, and no.10 listed below received the second year's funding to further their research into more specific areas.

However, due to the 921 Earthquake and other reasons, the second year of DMP was carried out from January 2000 to December 2000, leaving a three-month lag from the first year.

Figure 2. Topic-based Projects under the second year's DMP

Project Title	Natural Science	Culture	
		Taiwanese Culture	Chinese Culture
1. Treasurers of National Palace Museum			✓
2. The World of Xuanzang and the Silk Route			✓
3. Discovery of Tamsui River (II)		✓	
4. Native/Folk Artist Digital Museum—Yu-Yu Yang Art Research Center		✓	
5. Historical Photos of Taiwan		✓	
6. Architectural History of Taiwan		✓	
7. Mystery of Human Body	✓		
8. Web Maintenance of 'Taiwanese Aborigines—The Ping-pu Group'		✓	
9. Ancient Texts and Popular Songs of Tang and Sung Dynasties (II)			✓
10. Native Freshwater Fishes of Taiwan (II)	✓		
11. Chinese Medicine and Acupuncture	✓		
12. Biology-Cultural Diversification of Orchid Island (Lanyu)	✓	✓	

The following is a brief discussion of each project:

**a. Treasures of National Palace Museum (National Palace Museum)<sup>12</sup>**

URL: <http://www.npm.gov.tw/dm/dm.htm>

This project will put three theme-based rare collections on the web: enamels from Ming and Ching dynasties, paintings/calligraphies of Sung dynasty and Buddhism scripts/paintings. The purpose of this project is to promote Chinese culture and share our culture heritage with the world.

**b. The World of Xuanzang and the Silk Route (National Taiwan University) <sup>13</sup>**

URL: <http://mars.csie.ntu.edu.tw/silk/>

'The Journey to the West' is a well-known Chinese classical novel known by the young and the old among Chinese, and Xuanzang's journey to the west is a major plot in the novel. Based on this story, the project will integrate relevant archives, history, geography information, and art objects to develop a digital museum.

**c. Discovery of Tamsui River (II) (National Taiwan University) <sup>14</sup>**

URL: <http://d1m.ntu.edu.tw/webtitle/publish/default.htm>

This is a joint effort of the National Taiwan University faculty from the fields of history, geography, anthropology, library and information science, and computer science. This project will further study the results from the first year with a focus on data mining and knowledge discovery.

**d. Native/Folk Artist Digital Museum--Yu-Yu Yang Art Research Center (National Chiao Tung University) <sup>15</sup>**

URL: <http://folkartist.e-lib.nctu.edu.tw/>

Prof. Yu-Yu Yang (1926-) is a famous sculptor with world-wide fame and is a well-known folk artist in Taiwan. This project will organize, catalog and digitalize Yang's works, and develop a search engine and 3-D virtual reality for this digital museum.

**e. Historical Photos of Taiwan (National Taiwan College of Arts)**

'A picture may worth more than a thousand words.' Through digitizing old pictures of Taiwan, it will be able to preserve local culture and enable future generations to learn more about their cultural heritage.

**f. Architectural History of Taiwan (I-Shou University) <sup>16</sup>**

Preservation of Taiwan historical architects is not an easy task. Due to natural disasters and man-made destructions, architects may get damaged and need restoration. Through multi-media, this project will present the digital collections of Taiwan's historical architects tracing back to the Dutch-Westerner period, Ming and Chen dynasties, Ching dynasty, and the Japanese Colonial period. In addition, it will establish a reference database with retrieval/access function.

**g. Mystery of Human Body (Taipei Medical College) <sup>17</sup>**

URL: <http://203.71.92.111/>

The purpose of this project is to promote general education with an emphasis on

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the mystery of human body. Through multi-media, this educational project will disseminate medical knowledge on the web and enhance public health.

**h. Web Maintenance of 'Taiwanese Aborigines--The Ping-pu Group' (II) (Academia Sinica)<sup>18</sup>**

This project will continue to maintain, manage and improve the digital museum established in the first year; provide more information about the Ping-pu Group based on society's concerns; and develop web information technology.

**I. Ancient Texts and Popular Songs of Tang and Sung Dynasties (II)--The Written Knowledge Network for primary and secondary school students (Academia Sinica)<sup>19</sup>**

URL: <http://www.sinica.edu.tw/wen/main.html>

Based on the common words (about 1000) and vocabularies (about 200) used by elementary school students, this project will provide some sentence patterns for their reference. In addition, a particular word or phrase can be linked to ancient texts and classical novels. This project will integrate three sub-projects (Popular Songs of Tang and Sung Dynasties, Daily Languages, and Lingual Games) into its core, the Written Knowledge Network.

**J. Native Freshwater Fishes of Taiwan (II) (Academia Sinica)<sup>20</sup>**

URL: <http://fishdb.sinica.edu.tw/>

Based on the 80+ types of Taiwan native freshwater fish (30 of them can only be found in Taiwan), this project will provide detailed information concerning the classification, distribution, ecology, behaviors, life history and preservation of each species. The purpose of this web site is to promote general education, water resource preservation, and environmental protection.

**K. Chinese Medicine and Acupuncture (China Medical College)<sup>21</sup>**

URL: <http://140.128.63.210/>

This digital museum will set up four exhibitions: 1) Medicine Abstracted from Herbs, 2) Medicine Abstracted from Animals/Minerals, 3) Chinese Medicine, and 4) Acupuncture. The purpose of this project is to preserve documents and artifacts of Chinese medicine and acupuncture and provide reliable knowledge on Chinese medicine to the Chinese society. In addition, teachers and industries may refer to these materials for teaching and R&D.

**L. Biology-Cultural Diversification of Orchid Island (Lanyu) (National Museum**

of Natural Science and National Chi-Nan University)<sup>22</sup>

Based on the Lanyu collection that contains information on its history, geology, animals and plants by National Museum of Natural Science, this project will develop a multi-content, multi-functional digital museum on the biology diversification of Lanyu.

During the second year, two technical support projects are being carried out:

**a. The Implementation for Resources Organization and Searching Specification in Digital Museums (ROSS, National Taiwan University)**

Under the second year's grant, ROSS will continue its research by establishing the access points, mandatory/optional elements and core elements for information retrieval exchange among different systems; and further developing Metalogy, Z39.50 Client/Server system, authority files, and the browsing system. It will work on MICI-DC tagging guide to provide semantic interpretations for cataloguers. In addition, keeping updated the development of major metadata (mainly Dublin Core); XML and RDF are also essential. ROSS plans to invite digital library/museum professionals in Taiwan to participate this project by using MICI-DC and Metalogy system to record their collections. Moreover, ROSS will hold discussion meetings periodically to gather user feedback for further improvement of metadata format and Metalogy system. At last, ROSS will investigate the feasibility of multi-lingual information retrieval.

**b. Technology Development of Digital Watermarking and Software Tools (National Chiao Tung University, NCTU)**

Goal of DMP is to establish and present multi media of museums on the Internet; these topic-based museums demand lots of human effort, and their contents contain many still images. The purpose of this project is to provide a scheme for copyright protection of digital images by embedding watermarks into still images (namely, archive images, reference images and thumbnail images). Thus, it can be used for the proof of copyright ownership through the process of image verification by the 'image authentication center' in NCTU.

**4. Digital Archive Program (DAP, to be announced Jan. 2001)**

This program is still under the planning stage and it is expected to begin in January 2001. The aim of this program is to digitalize important national archives for both practical/research use and culture preservation. Resource types may include documents, manuscripts, archives, rare books, calligraphic manuscripts, ink rubbings,

paintings, and objects, etc. After collecting, organizing and digitizing, DAP will build a digital collection database, which will be useful for purposes of academic research, education (web sites and multi-media products), and industrial value-added applications. Consequently, DAP can disseminate Chinese culture and share our invaluable cultural heritage with people in Taiwan as well as the world. Seven institutions were invited to participate DAP, and their collections and digitizing progress are summarized in Figure 3.<sup>23</sup>

**Figure 3. Invited Participants of DAP**

<b>Institution</b>	<b>Main Collections</b>	<b>Status of Digitizing</b>
National Palace Museum	about 700,000 rare collections on objects, calligraphy/paintings and books/manuscripts	a small portion of collections has been digitized for test-bed projects
Academia Sinica	about 2 million pages of rare books on Sung, Yuan, Ming and Ching dynasties; and artifacts and objects from Taiwan aboriginal people	also participate in DMP and the digitization of '25 Historical Books' (Erh-shih-wu Shih)
National Central Library	over 12,000 sets of special collections with more than 125,000 individual volumes; and manuscripts, wooden tablets, ink rubbings, calligraphic manuscripts, etc.	a portion of collections has been digitized
National Museum of History	about 50,000 historical objects	a portion of collections has been digitized
National Museum of Natural Science	natural science history including fossils, images	a portion of collections has been digitized
National Taiwan University	thousands of rare manuscripts, and many historical objects and archives.	also participate in DMP
The Taiwan Provincial Archives	documents from Japanese-colonial period	a portion of collections has been digitized

## **5. Information Literacy and Digital Museum Promoting Programs**

Only database or digital collection can't transform information into knowledge and productivity. The human mind is the most important factor among the process. After creating system, how to improve the information use competency of public is the next issues. There are many promotion program in Taiwan libraries recently, and those program have gradually caught attention of the public to recognize the information literacy and know how to find and use information efficiently.

<http://readopac.ncl.edu.tw>

READncl is an online document delivery system providing 24-hour access to Chinese periodicals, government publications, Taiwanese authors information, and Taiwanese artists at the National Central Library. This system contains more than 1.7 million bibliographic records and about 11 million full-image pages of documents are available for online display, printout, fax or mail delivery.

### **3. Interlibrary Loan Networking System for Taiwanese Libraries (ILL System) and Interlibrary-Loan Service Center (ILL Service Center)**

Although Taiwan libraries already formed an interlibrary cooperation association and copy articles for user each other, the traditional ILL process was slow, and user need to wait about 1-2 weeks to get an article copy. To expedite the ILL process, improve the patron service, and reduce the workload of librarians, the Science & Technology Information Center (STIC) of the National Science Council (NSC) and National Chiao-Tung University (NCTU) develop cooperatively the ILL System and ILL Service Center. The ILL System has the following characteristics:<sup>2</sup>

(1) WWW-based working environment and centralized database

The system is WWW-based; therefore, patrons and librarians do not need to install additional software other than WWW browsers to use it. By connecting to the WWW server of the ILL System, patrons and librarians can perform ILL-related actions from anywhere in 24 hours per day and seven days per week (without restriction on the opening hours of libraries).

(2) Integrated union catalogs

Two union catalogs are linked to the ILL System in order that patrons can query them to know the owning libraries of the materials they need. The first is a serial union catalog comprising about 30,000 journal titles (foreign, Taiwanese, and Mainland China journals) owned by 300 more Taiwan libraries; this serial union catalog is compiled by STIC. The second one is NBINET (National Bibliographic Information Network), a book union catalog managed by National Central Library. NBINET is the achievement of a cooperative cataloging program participated by 60 more Taiwan libraries.

(3) Patron-initiated material requests

The system permits patrons to submit ILL requests online. When requesting a material, a patron may search the union catalogs first to identify the owning libraries of the material. He can then fill out an online form to place his request. When filling out the request form, the system will pass the bibliographic and holding information of the material automatically from the union catalogs; in this manner, patrons can save the time and reduce the potential errors to write the form. As the union catalogs are not 100% correct, a patron can also fill out a blank



## Knowledge-based Economy and Digital Knowledge

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National Taiwan Normal University

## Outline

- What is Knowledge-based Economy
- The relationship of Libraries and knowledge-based economy
- Information systems developed by National Central Library
- ILL System in Taiwan
- Digital Museum Project phrase I, II
- National Archive Program
- Promoting Programs
- Conclusion

## What is Knowledge-based Economy

- knowledge is the driving favor of Economy
- Research is the foundation of Productivity and Industry
- Recently, traditional industry are in the demise and knowledge-based industry are on the rise So, knowledge-based economy is inevitable for Taiwan.
- Our government also has proposed plans for developing knowledge-based economy and is aiming to increase competiveness and scientific excellence in order to generate higher levels of sustainable growth and productivity in a modern economy

## The relationship of Libraries and Knowledge-based Economy

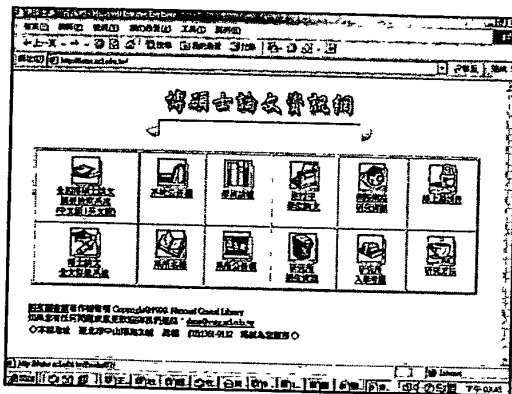
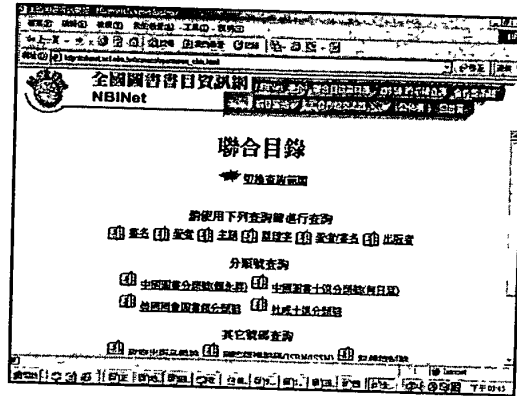
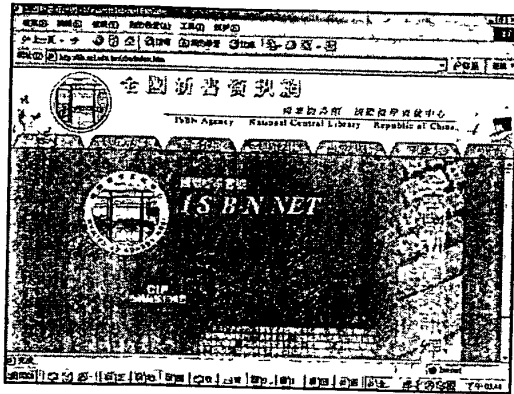
- To develop knowledge-based economy we need knowledge
- No information no knowledge
- Libraries with rich and accessible collection which will help people to think and innovate
- Especially, libraries supply information equally and freely to public and shorten the knowledge lag of public
- Besides, creating local databases also are important issues of knowledge-based economy.

## Some important Information systems

- Information systems develop by NCL
- ILL system
- Digital Museum Project phrase I, II
- National Archive Program

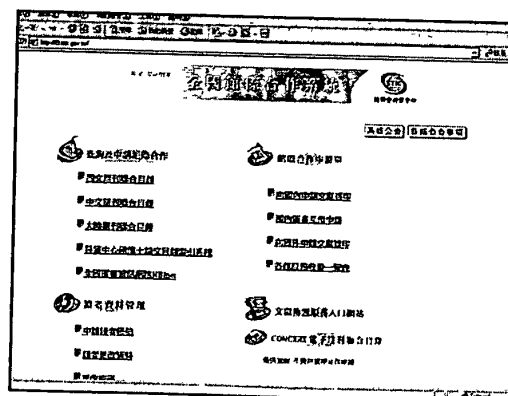
## Information systems develop by NCL

- International Standard Book Number Network (ISBNnet)
- International Standard Recording Code Network (ISRC)
- National Bibliographic Information Network (NBINet)(about 2.5 million bibliographic records of 70 libraries )
- Dissertation and Thesis Abstract System (DATAS)(170,000 records)
- Remote Electronic Access/Delivery of the National Central Library (READncl) (contain 1.7 million index and 11 millions full-image pages of journal article)



Interlibrary loan system in Taiwan

- Interlibrary Loan Networking System for Taiwanese Libraries (ILL System) and Interlibrary-Loan Service Center (ILL Service Center)



### **Digital Museum Projects**

- **Digital Museum Project Phase I**
  - Subject projects
  - Technical support projects
- **Digital Museum Project Phase II**
  - Subject projects
  - Technical support projects
- **Digital Museum Project Phase III**

### **Digital Museum Project Phase I (1)**

- **Discovery of Tamsui River** (National Taiwan University)
- **Taiwanese Aborigines—The Ping-pu Group** (Academia Sinica)
- **Butterfly Ecology** (National Museum of Natural Science and National Chi-Nan University)
- **Native Plants and Fishes of Taiwan** (Academia Sinica)
- **Understanding Ancient Texts—The Written Knowledge Network** (Academia Sinica)
- **An Immortal Palace—Han Dynasty Culture and Burials** (Academia Sinica)
- **Firearms and Ming-Ching Dynasty Warfare** (National Tsing Hua University)

### **Technical Support Project of Phase I**

- **Resources Organization and Searching Specification (ROSS, National Taiwan University)**
- **Electronic Cultural and Natural Resource Atlas** (Academia Sinica)
- **Digital Collection System Technology Development** (Academia Sinica)
- **Research on System Evaluation Standard** (National Taiwan University)

### **Digital Museum Project Phase II (1)**

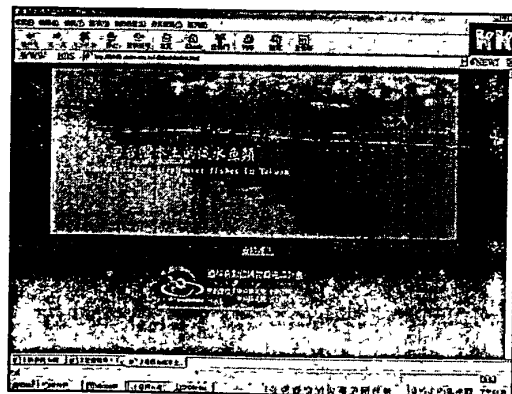
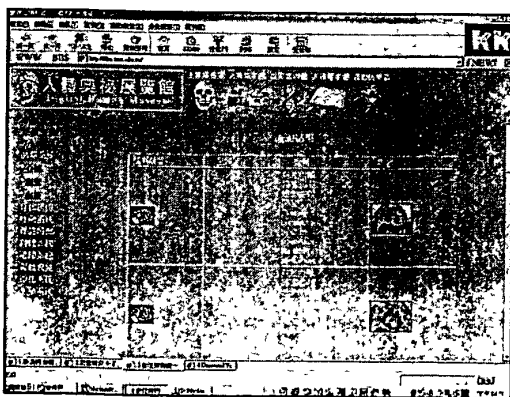
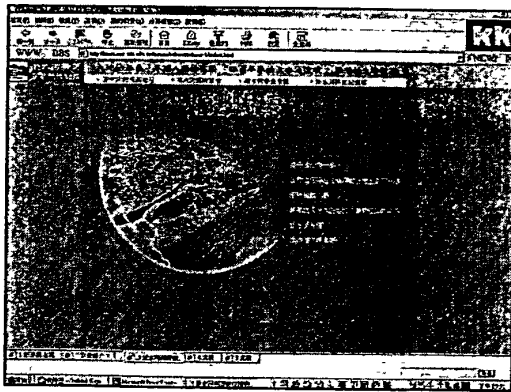
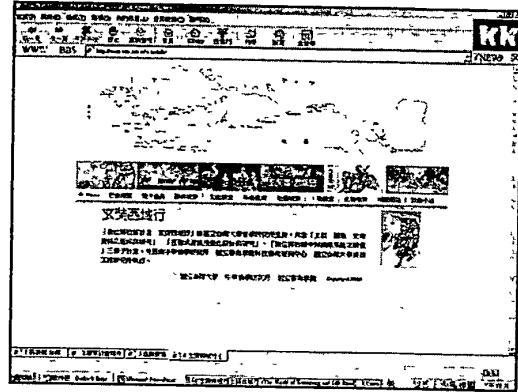
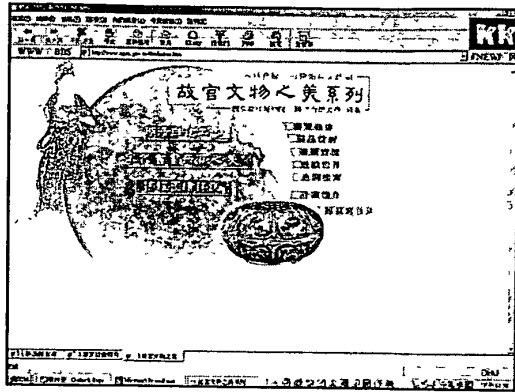
- **Treasures of National Palace Museum** (National Palace Museum)
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- **Historical Photos of Taiwan** (National Taiwan College of Arts)
- **Architectural History of Taiwan** (I-Shou University)

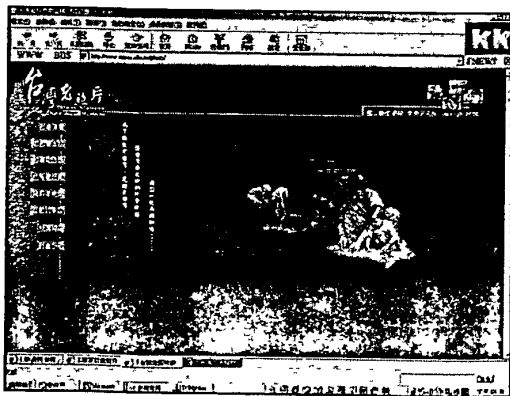
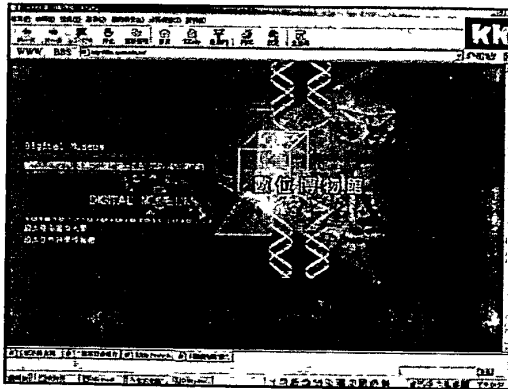
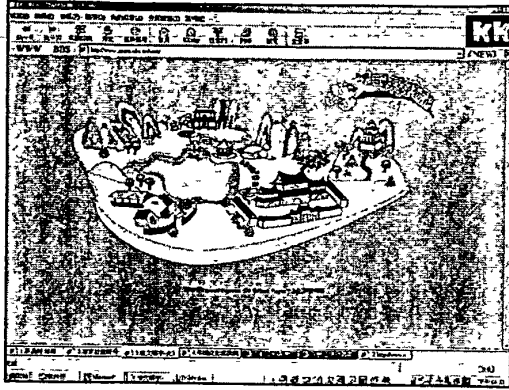
### **Digital Museum Project Phase II (2)**

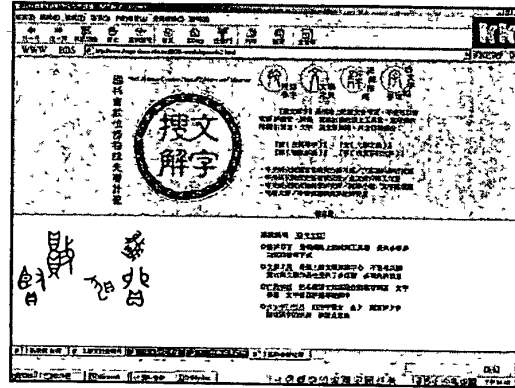
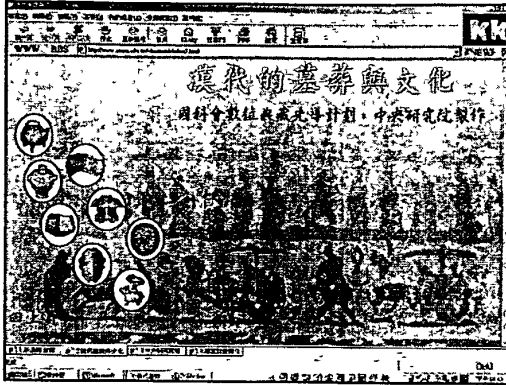
- **Mystery of Human Body** (Taipei Medical College)
- **Web Maintenance of 'Taiwanese Aborigines—The Ping-pu Group' (II)** (Academia Sinica)
- **Ancient Texts and Popular Songs of Tang and Sung Dynasties (II)—The Written Knowledge Network for primary and secondary school students** (Academia Sinica)
- **Native Freshwater Fishes of Taiwan (II)** (Academia Sinica)
- **Chinese Medicine and Acupuncture** (China Medical College)
- **Biology-Cultural Diversification of Orchid Island (Lanyu)** (National Museum of Natural Science and National Chi-Nan University)

### **Technical support projects of Phase II**

- **The Implementation for Resources Organization and Searching Specification in Digital Museums (ROSS, National Taiwan University)**
- **Technology Development of Digital Watermarking and Software Tools** (National Chiao Tung University, NCTU)







## National Archive Program

- Beginning from 2001
- The purpose of this program is to digitalize and preserve important national archives of libraries and museums.
- After collecting, organizing and digitizing, DAP will build a digital collection database, which will be useful for purposes of academic research, education (web sites and multi-media products), and industrial value-added applications. Consequently, DAP can disseminate Chinese culture and share our invaluable cultural heritage with people in Taiwan as well as the world

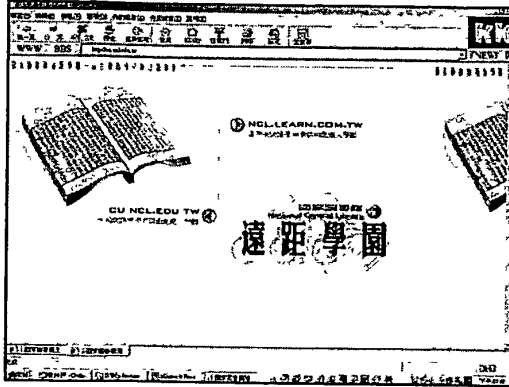
Institution	Main Collections
National Palace Museum	about 700,000 rare collections on objects, calligraphy/paintings and books/manuscripts
Academia Sinica	about 2 million pages of rare books on Sung, Yuan, Ming and Ching dynasties, and artifacts and objects from Taiwan aboriginal people
National Central Library	over 12,000 sets of special collections with more than 125,000 individual volumes; and manuscripts, wooden tablets, ink rubbings, calligraphic manuscripts, etc. Chinese periodical and newspaper
National Museum of History	about 50,000 historical objects
National Museum of Natural Science	natural science history including fossils, images
National Taiwan University	thousands of rare manuscripts, and many historical objects and archives.
The Taiwan Provincial Archives	documents from Japanese-colonial period

## Promotion Programs

- Only database or digital collection can't transform information into knowledge and productivity. The human mind is the most important factor among the process. After creating system, how to improve the information use competency of public is the next issues. There are many promotion program in Taiwan, and those program have gradually caught attention of the public to recognize the importance of information literacy.

## Promotion Programs

- Promotion activities of NCL
  - Build up the distance learning systems and information literacy courses for public, teacher and children
  - Conference and workshop for school principal, teacher and officer
- Digital Museum Project Promotion Office
  - Training Courses of Information Technology
  - Proposed promotion activities for School Teacher and competition of teaching plans design based on DMP products



- ### Future plans
- **3-year development plans of Librarianship**
    - Portal of knowledge-based searching
    - Digitize all of the Chinese Periodical and newspapers
    - Digitize all of the dissertation and thesis
    - Build up Taiwan info system
    - Build up Taiwan Memory system
    - Build up knowledge map network for children
  - **National level Archive Programs**
    - More budgets and more institutions's collection
  - **National Culture Databases**
    - Build up 8 kind of art databases

- ### Conclusion
- Knowledge is forming the infrastructure of Taiwan economy
  - Information systems and databases of libraries can enable public locate information efficiently and quickly, and Taiwan's library already develop essential information systems for user
  - Digital Museum Projects develop the core technology of Digital library/Museum
  - National Archive Program will digitize and preserve important national archive
  - Promoting activities popularize the use of digital collection to public
  - Digital knowledge is the foundation of knowledge-based economy

Thank You

**ALIA International Poster Sessions**  
**on the 2001**  
 As the Foundation of Knowledge Society :  
 the Current Status and Future Development of Network Information Services of Library in Taiwan

The poster features a central title and a network of seven circular nodes, each containing a thumbnail image of a poster and a label:

- New publications** (bottom-left node)
- Union Cat** (middle-left node)
- Thesis & Dissertation** (top-left node)
- Serials** (bottom-center node)
- Government Pubs** (middle-right node)
- Literature** (top-right node)
- Artists** (top-right node)



## 附件四

### National Bibliographic Information Network (NBINet) <http://nbinet.ncl.edu.tw>



NBINet is a bibliographic resource sharing network composed of 46 college and university libraries, 10 special libraries, 13 public libraries and the National Central Library of Taiwan.

NBINet provides Web access to...

#### ◆ Union Catalog

Containing more than 2.5 million bibliographic records from 70 institutions, encompassing library materials on diverse subjects in Chinese, Japanese, Korean, and western languages.

#### ◆ Union Catalog of Chinese Rare Books

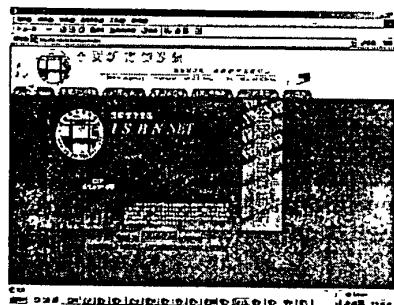
Containing more than 110,000 bibliographic records from the National Palace Museum, Academia Sinica, National Central Library, three university libraries and one public library.

#### ◆ Other databases of bibliographic information

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## International Standard Book Number Network (ISBNnet)

<http://www.ncl.edu.tw/isbn>



ISBNnet provides ISBN/CIP bibliographic records and publishers' data for publications released in the Taiwan area.

ISBNnet provides access to . . .

◎ **New Books Information**

Information on recently published books, including cover images, author/content introductions and reviews

◎ **Bibliographic Database**

Nearly 333,000 bibliographic records on publications from 1989 to forthcoming books

◎ **Publishers' Network**

Information on 7,819 publishers

◎ **Download Section**

Free downloads of bibliographic records through authorized accounts

Want to join our mailing list to receive free monthly copies of *New Books Monthly: Recent and Forthcoming Publications in Taiwan*? Please feel free to contact us!

E-mail: [isbn@msg.ncl.edu.tw](mailto:isbn@msg.ncl.edu.tw)

**International Standard Recording Code Network**



<http://isrc.ncl.edu.tw>

From ISRC you can get bibliographic records on sound and music video recordings and information on record companies in Taiwan.

## Dissertation and Thesis Abstract System (DATAS)

<http://datas.ncl.edu.tw>



DATAS is a database of the dissertations and thesis abstracts of graduate and postgraduate students at the 70 colleges and universities in Taiwan. The database is regularly augmented with dissertations uploaded by the students themselves at the time of their graduation.

This database provides Web access to ...

◆ Abstracts

About 170,000 records since 1956, including bibliographies, tables of contents, abstracts and references.

◆ Full-text documents

About 7,000 full-text dissertations published since 1999 may be freely accessed online and downloaded within Taiwan.

◆ Full-text download ranking data

Online statistics on the current ranking of different topics and disciplines.

## Remote Electronic Access/Delivery of the National Central Library (READncl)



<http://www.read.com.tw>  
<http://readopac.ncl.edu.tw>

READncl is an online document delivery system providing 24-hour access to Chinese periodicals, government publications and full-text articles at the National Central Library.

READncl provides Web access to...

### ◆ Database searches

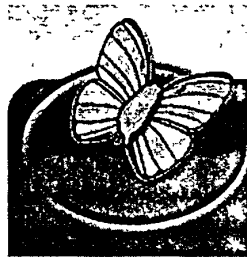
Search more than 1.7 millions bibliographic records and abstracts with full-image display from nine databases, including information on Chinese periodicals published in Taiwan, gazettes, artists and literary writers.

### ◆ Online document delivery

More than 10 millions full-image pages of document are available for online display, printout, fax or mail delivery.

## TaiwanInfo

<http://readopac.ncl.edu.tw/gis>



TaiwanInfo provides government information about the Republic of China (Taiwan), including current status, future developments, domestic issues, and foreign affairs. It includes indexes, summaries, full-text, and image databases, such as Who's Who in the ROC government, Government Agencies Online Directory, Official Gazettes, Government Statistics, and Government Publications, Government Administrative News and Current Issues. There are also links to resources on laws & regulations, yearbooks, white papers, patents & trademarks, and reports.

TaiwanInfo provides Web access to...

### ◆ Databases

Containing more than 500,000 index records and summaries and over five million images

### ◆ News & Current Issues

Containing resources drawn from government agency websites, including news, announcements, and current issues

### ◆ Other databases of government information

## Taiwan Authors Full-text System (TAFS)

<http://lit.ncl.edu.tw/>



## 當代文學史料影像全文系統

TAFS covers 2,000 writers active in Taiwan over the past fifty years.

TAFS provides web access to ...

- ◆ Basic author information
  - ◆ Bibliographies
  - ◆ Chronological lists of works
  - ◆ Biographies
  - ◆ Reviews
  - ◆ Translations
  - ◆ Manuscripts
  - ◆ Photographs
  - ◆ Records of literary prizes
  - ◆ Famous quotations
- ※ Awarded 1994 Outstanding Chinese Information Products

## Taiwan Artists System (TAS)

<http://art.ncl.edu.tw/>

### 當代藝術家系統 Artists Database in Taiwan Area

TAS covers 1,000 Taiwanese artists born after 1900 and whose works have been exhibited domestically. It contains photos of six to 10 works for each artist.

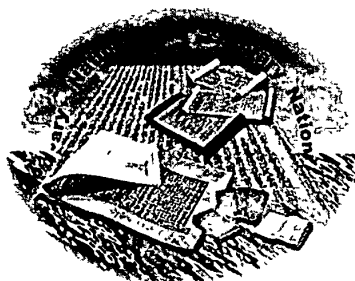
TAT provides web access to ...

- ◆ Basic artist information
- ◆ Painting
- ◆ Sculpture
- ◆ Photography
- ◆ Ceramics
- ◆ Ideas



## Special Collection of NCL: Rare Books

<http://www.ncl.edu.tw/f89.htm>



### Special Collection Department ,NCL Collection

- Total amount over 300,000 items.
- Include rare books, bronze and stone inscription, bamboo slips and wooden tablets, Chinese new year print...
- Rare books is most important of all. Rare edition over 12,000 items, include Tun-huang manuscripts, Sung ,Chin, Yuan, Ming and Ch'ing Dyansty edtion.
- A varity of Ming and Ch'ing editions help make the NCL's rare book collection one of the world's most valuable sites of original text research.

## Introduction to Taiwan Serial Union Catalog and Interlibrary Loan System

Libraries in Taiwan have long actualized the concept of resource sharing through the implementation of interlibrary loan (ILL). However, the traditional ILL process does not exploit the computer and network technology very well; thus, the performance of ILL is not satisfactory.

To expedite the ILL process, improve the patron service, and reduce the workload of librarians, a stable and efficient ILL mechanism adequately utilizing the computer and network technology is very essential. Recognizing the importance of interlibrary loan and responding to the expectation of libraries, the Science & Technology Information Center (STIC) of the National Science Council (NSC) and National Chiao-Tung University (NCTU) develop cooperatively the *Interlibrary Loan Networking System for Taiwanese Libraries* (the *ILL System*). In addition, an *Interlibrary-Loan Service Center* (the *ILL Service Center*) is also built to offer essential services and assistance to participating libraries.

The ILL System has the following characteristics:

(1) WWW-based working environment and centralized database

The system is WWW-based; therefore, patrons and librarians do not need to install additional software other than WWW browsers to use it. By connecting to the WWW server of the ILL System, patrons and librarians can perform ILL-related actions from anywhere in 24 hours per day and seven days per week (without restriction on the opening hours of libraries).

(2) Integrated union catalogs

Two union catalogs are linked to the ILL System in order that patrons can query them to know the owning libraries of the materials they need. The first is a serial union catalog comprising about 30,000 journal titles (foreign, Taiwanese, and Mainland China journals) owned by 300 more Taiwan libraries; this serial union catalog is compiled by STIC. The second one is NBINET (National Bibliographic Information Network), a book union catalog managed by National Central Library. NBINET is the achievement of a cooperative cataloging program participated by 60 more Taiwan libraries.

(3) Patron-initiated material requests

The system permits patrons to submit ILL requests online. When requesting a material, a patron may search the union catalogs first to identify the owning libraries of the material. He can then fill out an online form to place his request. When filling out the request form, the system will pass the bibliographic and holding information of the material automatically from the union catalogs; in this manner, patrons can save the time and reduce the potential errors to write the form. As the union catalogs are not 100% correct, a patron can also fill out a blank request form.

When placing a request, a patron can choose a suitable delivery method (including Taiwan Postal Service, FAX and Ariel) used by the lending library to send the material; in addition, a patron may select at most three lending libraries to process his request in sequence. When a library fails to fulfill a request, the request will be forwarded automatically to the succeeding library.

In case no domestic libraries own the needed material, a patron can still issue an international ILL request by writing a blank form.

#### (4) Librarian-mediated ordering

Librarians are involved closely in processing ILL requests. For instance, before an ILL request is sent out to lending libraries, it is reviewed first by borrowing librarians for ensuring that the requestor gives all the necessary information correctly.

Furthermore, a request will go through a number of transaction states before it is completed (no matter success or failure). These states include *Waiting for Review*, *Waiting for Processing by Lending Library*, *In Processing*, *Waiting for Picking Up*, *Request Successful*, *Request Rejected*, among others. Either borrowing or lending librarians are responsible for switching these states, according to the actual processing status of the request.

#### (5) Traceable ILL states and statistics

The system keeps track of the states of all ILL requests, which is beneficial for librarians and patrons to be aware of the latest processing status of requests. Additionally, the system regularly generates statistics, which include the number of requests, average turnaround time, fill rate, number of requests per journal per library, etc. Libraries can exploit these statistics for improving the ILL performance and, in the long run, establishing their collection-development policies.

#### (6) Centralized billing and payment

Billing and payment for ILL transactions may be the most tedious and time-consuming part in the ILL operation. The traditional billing and payment model is decentralized. In other words, a library has to bill every library borrowing materials from and paying every library lending materials to her. In this model, librarians, especially the librarians of larger libraries, have to spend a lot of time on the routine process of billing and payment.

OCLC's implementation of the ILL Fee Management (IFM) system (<http://www.oclc.org/oclc/menu/feeman.htm>) in 1995 is a pioneer endeavor to create a centralized billing and payment model. The Taiwan ILL System contains an ILL Fee management mechanism similar to OCLC's IFM system. The ILL Service Center takes charge of the process of invoicing and payment.

STIC and NCTU launched the ILL System and Service Center in the July of 1999. The eligible libraries for using the system are the members of *Interlibrary Cooperation Association* (ILCA). Up to the April of 2001, ILCA has 450+ member libraries. Among them, 365 (about 80%) of ILCA libraries employ the system for their daily ILL operation, and 235 of the libraries using the system participate in the process of centralized billing and payment. More than 200,000 requests have been placed via the ILL System.

附件五

**Remote Electronic Access/Delivery of the  
National Central Library  
(READncl)**

<http://www.read.com.tw>  
<http://readopac.ncl.edu.tw>

**READncl including :**

1. Chinese periodicals resources
  - Index to Chinese Periodical Literature
  - Current Content of Chinese Periodicals
  - Chinese Periodicals Directory
2. Government information about the Republic of China (Taiwan)
  - Official Gazettes
  - Government Statistics
  - Government Publications
  - Reports on Overseas Assignments
3. Taiwan Artists and Literary writers
  - Taiwan Artists System
  - Taiwan Authors Full-text System

READncl is an online document delivery system providing 24-hour access to Chinese periodicals, government publications and full-image articles at the National Central Library.

READncl provides Web access to...

◆ **Database searches**

Search more than 1.7 millions bibliographic records and abstracts with full-image display from nine databases, including information on Chinese periodicals published in Taiwan, gazettes, artists and literary writers

◆ **Online document delivery**

More than 10 millions full-image pages of document are available for online display, printout, fax or mail delivery.

**Application :**

■ **Individual members**

Apply online through the READncl website. You will also need to buy a prepayment card with a personal access number.

**Document Delivery Methods and Fees**

Delivery Method	Fee
online print out	NT\$3/page
Mailed	NT\$3/page + registered post fee + NT\$15 handling fee
Fax (For eight or less pages)	NT\$3/page + telephone fee

■ **Group members**

Group users within an authorized IP network area can access online and printout documents already scanned into the system.

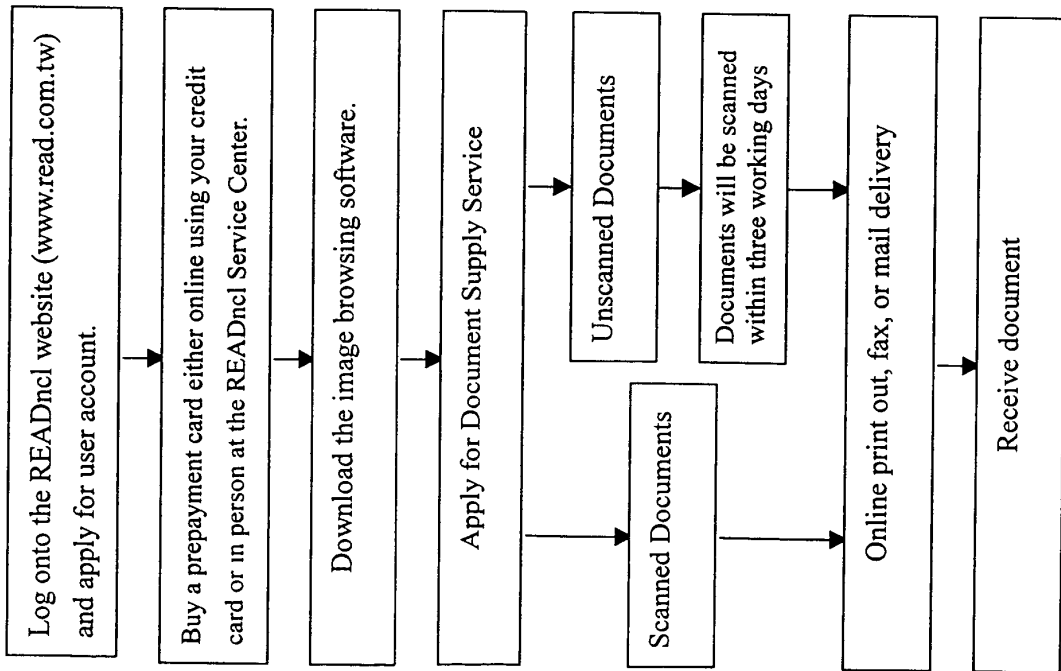
Unscanned documents or periodicals published within the last six months may be requested by submitting an application through a ILLrepresentative of a library.

Group members can choose to pay an annual fee for unlimited online access and printout of materials or pay on a per-page basis.

■ **ILL Representatives**

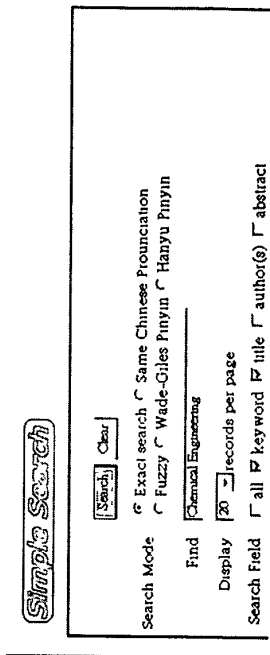
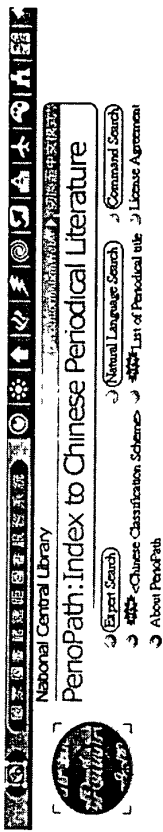
The staff of cooperating libraries may apply for a representative account to receive periodicals published within the last six months. They can also choose a IP or ID for authority control.

### How do I use READncl?



### User-friendly Interface

- Four search interfaces are provided for simple searches, advanced searches, natural language searches, and command searches
- In the search box enter your search word and click the "Search" button.



- Check the returned titles that you want to display their bibliographic information.

Brief format for item from 1 to 8 of 8 in PerioPath

凡資料前方有☐者表示該篇文章內容已由國家圖書館掃描保存

* #	Article Title	Author	Publish Date
<input type="checkbox"/>	Perceptions of the Effectiveness of the Chemical Engineering Curriculum in a Selected Five-year College in Taiwan	黃戴英	90.01
<input type="checkbox"/>	Graduate Perceptions of the Chemical Engineering Curriculum in the Shu-teh Junior College in Taiwan	黃戴英	90.03
<input type="checkbox"/>	「工業安全衛生」課程改進教學方案	石燕鳳	89.03
<input checked="" type="checkbox"/>	4. 網際網路可取得的化工資源	李天三	88.05
<input checked="" type="checkbox"/>	5 二重化學工程科課程內涵與企業所需專業能力配合之研究	陶家珍 黃世傑	87.11
<input type="checkbox"/>	6 專科學校五年制化學工程科新課程之探討研究	楊木火 衛漢強	86.02

- 4) All of the documents returned by your search can be accessed in full-text form by print out, mail, or fax delivery. Simply click the "Make Copy" button on the tool bar above the bibliographic data of the document of interest.

<input type="button" value="Make Copy"/> <input type="button" value="Scanned"/> <input type="button" value="Chinese Abstract"/> <input type="button" value="English Abstract"/>	
Sys ID	A9910568
Article Title	網際網路可取得的化工資源
Para. Title	The Chemical Engineering Internet Resources
Authors	李天三
Journal Title	網際與課程
Volume/Date	71 頁88 05 頁56-69
Date Language	Chinese
Request on Author	李天三; Lee, Tian-san
Request on Journal Title	網際與課程
Keywords	網際網路; 化工資源
Class Code Requesty	448.6

- 5) In the next screen, enter your user ID and password and choose your preferred delivery method.

### Document Ordering : Prices Information

NOTICE: Please follow the COPYRIGHT LAW. The copyright holder of this article has not authorized delivery of this item via internet.

Article Title 網際網路可取得的化工資源 (Available NOW)

User ID

Password

Delivery method

Print Out (cost: NT\$42, Print directly to the Printer)

Mail (cost: NT\$27)

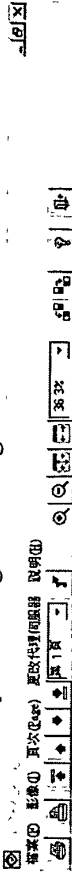
You Must FIRST Download the Image Browser Software to view/print documents.

NOTICE

If you want to make another order for this same article, please return to the previous page and double-click the "Make Copy" hyper link

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Email: National Periodical Center, NCL

- 6) If you select to print out the material, you will need to first download and install special image browsing software from this website.



## 網際網路可取得的化工資源

李天三

### 摘要

本文將詳細介紹作者搜集的化工基本資訊並闡述如何搜尋這類的資源。

在國內有不少文獻專門介紹網際網路資源之工具-搜索引擎，但很少有專文介紹「化學工程網際網路」之資源，本文將詳細介紹作者搜集的化工基本資訊並闡述如何搜尋這類的資源。

做為現代化學工程師，不啻在化工技術領域上學有專精，而且對網際資源也稱有所認識，不至於日後變成網際網路文盲。

READncl Service Center

Telephone : 886-2-23619132 Ext. 219

886-2-25010486

Fax : 886-2-23892790

Email : [service@read.com.tw](mailto:service@read.com.tw)

Address : National Central Library 2F, 20, Chung-Shan S. Rd.,

Taipei, Taiwan