

## **The Hong Kong Innovative Users Group: A Successful Story of Library Development through Collaboration**

Mr. Tommy Yeung, Reader Services Librarian, Lingnan University, Hong Kong  
Tel: (852) 2616 8566, Fax: (852) 2891 4522, Email: tyeung@ln.edu.hk

Ms. Camilla Chang, Systems Librarian, The Polytechnic University of Hong Kong  
Email: lbcam@polyu.edu.hk

Mr. Owen Tam, Technical Services Librarian, Lingnan University, Hong Kong  
Tel: (852) 2616 8574, Fax: (852) 2891 4522, Email: owent@ln.edu.hk

### **Abstract**

When established in 1996, the aim of the Hong Kong Innovative Users Group (HKIUG) was to liaise among local academic libraries to resolve mutual problems and to seek common practice in using the INNOPAC library system. Over the years, more libraries from government and special library sectors have joined HKIUG, and the group now also serves as a forum for key library development issues, such as Unicode implementation, metadata, union catalogue, linking and access to electronic resources, wireless applications, etc.

By reviewing the history and achievements of HKIUG, this paper looks at how libraries in Hong Kong joined forces to take on challenges in the past decade, with particular focus on library automation and digital libraries developments. Issues examined include: the structure and activities of HKIUG, its cooperation with Innovative Interfaces Inc., knowledge sharing among member libraries, and opportunities for collaboration with international library system users groups. An overview of library automation development in local academic libraries since 1990 is also provided. Major issues reviewed are full Chinese support of integrated library systems, the evolving role of library systems due to the inception of WWW, and impact of the increasing importance of electronic resources to digital library development.

### **Acknowledgments:**

The authors would like to thank members of the HKIUG Standing Committee and colleagues from HKIUG Libraries for their support in preparing this paper.

## **1. Introduction**

This paper is divided in two parts. **Part I** reviews the development of library automation in local academic libraries in the past decade, with highlights on major developmental milestones. **Part II** looks at the history and achievements of the Hong Kong Innovative Users Group (HKIUG), a major forum of local libraries on library automation and digital library issues. The aim of this paper is to examine how libraries in Hong Kong joined forces to take on challenges in library automation and digital libraries developments.

## 2. Library Automation in Local Academic Libraries

### 2.1 Development in the 1990's

During the early 1990's, academic libraries in Hong Kong began to adopt new integrated library systems to allow them to provide services more efficiently. This ranged from replacing in-house developed software which performed specific functions to migrating existing library systems to another platform. The main challenges libraries faced during that time were the pressing need of adopting a library system with full CJK (Chinese, Japanese, Korean) support and Web OPAC capabilities.

In 1991, the Hong Kong University of Science & Technology Library acquired the INNOPAC library system, and was instrumental in bringing it out of the USA and in providing expert knowledge to assist the system vendor (Innovative Interfaces Inc.) in enhancing the system to support Chinese characters. Since then, all academic libraries and several special libraries in Hong Kong have adopted INNOPAC (see **Table 1**).

**Table 1. INNOPAC Implementations in Hong Kong (by year)**

Library	Year	Previous System
Hong Kong University of Science & Technology	1991	New system
Lingnan University	1993	In-house developed
Hong Kong Academy for Performing Arts	1994	IBM Books System
Chinese University of Hong Kong	1995	DOBIS
Hong Kong Baptist University	1995	URICA
Hong Kong Institute of Education	1995	New system
Hospital Authority	1996	New system
University of Hong Kong	1996	DRA
City University of Hong Kong	1997	In-house developed
Hong Kong Polytechnic University	1997	DRA
Hong Kong Trade Development Council	1998	Inmagic
Hong Kong Legislative Council	1999	New system
Judiciary Libraries, Judiciary	2002	CCNet (Hong Kong)

**Source: HKIUG Libraries**

The fact that all academic libraries in Hong Kong had adopted the INNOPAC library system by 1997 greatly enhanced library resources sharing activities in Hong Kong in the late 1990's. In October 1996, with funding support from the Government, the seven university libraries (later joined by the Hong Kong Institute of Education Library) in Hong Kong commissioned Innovative Interfaces to develop a Z39.50 client/server software to allow remote retrieval and import of records among their INNOPAC systems. This Co-Operative

Cataloguing project became fully operational in January 1998, and had successfully completed in March 2002.

The inception of WWW in mid 1990's made a fundamental change to the ways that libraries delivered their services. Character based online catalogues were replaced by WebOPACs, Local Area Network based CD-ROM databases were replaced by Internet based full-text journal databases, and libraries began to digitize their collections for delivery over the WWW. To fully exploit this new channel of service delivery and effectively organize networked resources, local academic libraries began to construct Digital/Electronic Libraries in the mid 1990's.

The Y2K issue dominated the local library automation scene during the late 1990's. Most libraries were heavily engaged in testing their systems for Y2K compliance. It also provided a good opportunity for libraries to replace or upgrade their aging computer hardware and software.

## 2.2 Development since 2000

Advancements of WWW technology during mid to late 1990's, together with decreasing computer hardware cost and increasing network bandwidth, greatly raised users' expectations of library systems. From library staff's perspective, a system was expected to have user friendly Graphical User Interface (GUI), and support multitasking and multi-windows working environment. On the other hand, library users expected libraries to introduce web-based online catalogues for benefits such as hyperlinks, computer platform independent client software, and easier remote access. With this in mind, Innovative Interfaces started to develop its next generation library system, the Millennium, in 1996. The Millennium system aspired to turn the telnet character-based INNOPAC into a totally web-based product. Java applets and suites of APIs (Application Programme Interface) were used to create thin client interfaces for all of INNOPAC's software modules. Rather than starting over and re-writing a new system from scratch, the company had provided an upgrade path for its customers that employed not only new technology but also maintained the functionality of the older INNOPAC system. For example, the Millennium modules were able to coexist with their character-based equivalents. This allowed existing users ample time to migrate to the new platform.

Libraries in Hong Kong quickly identified advantages of the Millennium system and began to convert their INNOPAC to this new platform beginning 2001. As at March 2004, all INNOPAC libraries in Hong Kong have upgraded their library system to the Millennium platform. **Table 2** illustrates current status of Millennium implementation at different local libraries.

**Using Millennium Modules in HKIUG Libraries**

Last update: 4 March, 2004

Millennium Modules  HKIUG Libraries	Acquisitions	Circulation	Cataloguing	Serials	Others		
					WebPac	Web Management Reports	Administration
CityU		√	Partially (Global update)	√	√	√	√
CUHK	*	*	*	*	√	*	*
HA	*	*	*	*		*	
HKAPA	Testing	√	Testing	Testing	√	√	
HKBU	√	√		√	√	√	√
HKIEd	Partially	√	Partially (Global update)	√	√	√	√
HKU		√	Partially (Rapid update)		√	√	
HKUST	Testing	Testing	("Silver" Beta Site)	*	√	√	Testing
Judiciary	√	√	√	√			
LegCo	√	√	√ (GuiCat)	√	√	√	
Lingnan	Partially	√	Partially (Global update)	√	√	√	√
PolyU	Partially	√	Partially (Rapid update, Global update)	√	√	√	√
TDC	Testing	Testing	Testing	Testing	√	√	Testing

\*= Installed but not rolled out yet

In recent two years, libraries in Hong Kong have explored various ways to expand the functionalities of their web-based online catalogues. Significant enhancements implemented in these aspects are using MARC tag 856 to link bibliographic records to full-text electronic books, electronic journals, and reserve articles. For instance, one academic library linked its bibliographic records to online bookstores for their value added information such as table-of-contents, book covers, book reviews, and selected chapters of a book<sup>1</sup>. Capitalizing on the advantage of web technology, library system vendors began to offer Reference Linking and Meta Search solutions for libraries to further expand their online catalogue into a library portal encompassing library collections within and beyond the physical library.

Reference Linking provides intelligent navigation from citations to full-text and other related information. As library catalogues extend their scope to include citation and full-text information, it triggers the need to provide more effective ways for users to navigate from links in the catalogue to a web of external information resources. Reference Linking software currently used or considered by local academic libraries are, WebBridge from Innovative Interfaces, and SFX from Ex Libris.

Meta Search provides users with the ability to search multiple information sources simultaneously. It takes a single query entered by the user, broadcasts it to multiple, selected information searches, gathers the results from each, and creates a unified results set, sorted with duplicated removed. Meta Search systems generally employ Z39.50, SQL, HTML parsing, and other techniques to process the query. Meta Search software currently used or considered by local academic libraries are, MetaFind from Innovative Interfaces, and MetaLib from Ex Libris.

With increasing amount of library collections accessed through the Web, how to facilitate remote access to subscribed databases and monitor its usage have become major challenges to libraries. Local academic libraries have tackled these challenges by implementing network access management solutions such as Virtual Private Network or Authentication Proxies.

Format of information and media used to deliver it also changed rapidly in recent years. For example, users can now access digitized audiovisual resources seamlessly over the Internet; Access to networked resources has become ubiquitous and wireless; PDAs (Personal Digital Assistants) and mobile phones have become standard devices for information dissemination. All these changes have brought libraries challenges and opportunities.

---

<sup>1</sup> Lingnan University, see <http://www.library.ln.edu.hk/libinfo/libpro/12thiug.ppt>

Libraries in Hong Kong have been acting quickly in managing these changes. Examples are the Multimedia On Demand initiatives by Lingnan University, Library2Go!, MyLibrary@hand, and AirPAC initiatives by Lingnan University, University of Hong Kong, and City University respectively.

The foremost challenges facing academic libraries in Hong Kong nowadays is how to maximize their resources with the ever decreasing budget. Like many libraries in other parts of the world, academic libraries in Hong Kong have applied new library automation technologies to facilitate resources sharing. Recent examples are the implementation of the ILLiad Inter-Library Loan system by several local academic libraries<sup>2</sup>, and the HKALL user initiated document delivery project.

Based on the INN-Reach software from Innovative Interfaces, the HKALL project is spearheaded by three local academic libraries in Hong Kong – City University Library, Lingnan University Library, and the University of Hong Kong Libraries. HKALL runs on a server housed at the University of Hong Kong Libraries. It is a physical union catalogue allowing the students and staff of the three partner institutions to search the mega collection of over 3 million monographs, audio-visual items, magazines and other materials held in the three participating libraries, make direct requests on the materials from the collections, and have the materials delivered to the libraries of their respective institutions for further checkout. It is a pioneering project in this part of the world holding a large number of Chinese bibliographic records. It is envisaged that this project will have far reaching influence on resource sharing and users access to information<sup>3</sup>.

### **3. The Hong Kong Innovative Users Group**

Academic libraries in Hong Kong have a fine tradition of cooperation and experience sharing. This has been especially the case in library automation and digital library developments. A key body in fostering this cooperative spirit among local libraries is the Hong Kong Innovative Users Group (HKIUG) – now participated by 13 local academic, government, and special libraries<sup>4</sup>.

---

<sup>2</sup> Baptist University Library, Chinese University Library, City University Library, Hong Kong Institute of Education, Lingnan University Library, University of Hong Kong Libraries.

<sup>3</sup> <http://hkall.hku.hk/>

<sup>4</sup> All libraries listed in Table 1. are members of the HKIUG.

### **3.1 Background of the HKIUG**

In October 1996, the Joint University Librarians Advisory Committee (JULAC)<sup>5</sup> decided to establish a users group to facilitate communication among local libraries in resolving mutual problems and seeking common practice in using the INNOPAC system. On 11 October 1996, the users group met for the first time and reached agreement on the following important issues:

1. The official name of this users group would be “Hong Kong (JULAC) Innovative Users Group”
2. Each member library would send one official representative to the group. Three officers would be elected among the representatives – Chair, Vice Chair, and Secretary. The officers would serve one year.
3. The group would be a committee under JULAC. Non-JULAC INNOPAC libraries could attend the group’s meetings as observers.
4. The terms of references of the HK(JULAC)IUG as:
  - i. To liaise among members to resolve mutual problems and to seek common practice;
  - ii. To make recommendations to JULAC and Innovative Interfaces Inc.;
  - iii. To enhance communication with other local and overseas INNOPAC sites and users groups.
5. Quarterly meeting would be held.

With increasing number of Non-JULAC libraries participating in the group’s activities, members voted unanimously in 2001 to accept Non-JULAC INNOPAC libraries as full members of the group. The decision was endorsed by JULAC, and the group was re-named to Hong Kong Innovative Users Group (HKIUG) in November 2001. As such, HKIUG had also become an independent body from JULAC.

Other organizational changes also occurred during this time:

1. The position of Vice Chair was abolished in 1998.
2. In 1999, a rotation system was introduced for the appointment of Chair and Secretary of the group (see **Appendix 1** for a list of HKIUG officers from 1996 to 2006).

---

<sup>5</sup> Consists of directors of the eight Hong Kong Government funded university libraries.

## **3.2 Achievements of the HKIUG**

### **3.2.1 Serving as a Bridge between Libraries and the System Vendor**

Throughout these years, the HKIUG acts as the focal point in putting forward Hong Kong Libraries' needs to their library systems vendor -- Innovative Interfaces. By combining efforts, HKIUG member libraries have successfully requested the system vendor to introduce several enhancements particularly addressing the bilingual requirements (Chinese and English) of local libraries. Below is a list of these unique needs of Hong Kong users.

#### **Enhancements already implemented:**

1. Support for 7XX authority redirection for the HKCAN project<sup>6</sup>. In 2001, the HKIUG successfully influenced Innovative Interfaces Inc. to adjust its system enhancement priorities and channel more resources to the development of this new feature. The effort made by HKIUG had directly resulted in an earlier release of the enhancement and contributed to the successful development of this internationally recognised Chinese Name Authority project.
2. Support for alternate methods of sorting Chinese characters, by radical, stroke count, or Pinyin Romanization, and re-indexing of local databases based on the preferred method.
3. Increasing the length of the index entries to accommodate up to 30 Chinese characters and re-indexing of local databases.
4. Support for verification on long Chinese headings up to 30 Chinese characters.
5. Support for proximity in Keyword search to support Chinese phrase searching.

#### **Enhancements that are currently being worked on**

1. A solution to the complex issues of EACC/CCCII - Unicode multiple character mapping. There is a long history to this issue and Innovative Interfaces began contacts with its Chinese users in January 2003 to begin the planning phases of how to address that issue. The HKIUG immediately set up a task force to work with the system vendor. This led to the

---

<sup>6</sup> <http://hkcan.ln.edu.hk>



development of a preferred mapping table known as the **hkiug.utf8 table**. Subsequent to that, Innovative proposed changes in the indexing tables and Cataloging Editor as well, and invited a representative from the HKIUG task force to their office headquarters to review the proposed changes.

2. Ignore Chinese symbols and punctuation marks for database indexing, also based on a table submitted by the HKIUG.
3. Pairing of tags with its corresponding 880 tag in parallel (Millennium Silver) Cataloging.

### 3.2.2 Problem Solving and Decision Support

During the first few years of its establishment, the HKIUG mainly served as a forum for experience sharing in using the INNOPAC system. Issues plagued HKIUG member libraries in those days included quality of support provided by Innovative Interfaces, run-away processes of INNOPAC, dysfunctional licensing control mechanism of WebOPAC, and dysfunctional Web-based Z39.50 search interface, etc. By joining forces, member libraries successfully used the HKIUG as a focal point to pressure the system vendor to resolve the above issues. A significant improvement introduced was the year-round 24 hours helpdesk support to cater for time and public holiday differences between Hong Kong and the United States.

With the gradual improvement of Innovative Interfaces' technical support and stability of the INNOPAC system, in recent years, the HKIUG has expanded its horizon and evolved into an influential forum for key library and information technology issues in Hong Kong. Member libraries frequently use the HKIUG platform to align development priorities and share experience to aid decision making on important issues such as:

1. Handling of CJK data by library systems;
2. Metadata and Authority Control standards;
3. Cataloguing of full-text electronic journals;
4. Control and monitoring of remote access to electronic resources;
5. OPAC enhancements and resources linking;
6. Developing digital multimedia collections;
7. Automation of new book selection procedures;
8. Modernization of Inter-Library Loan systems;
9. Implementation of Direct Consortial Borrowing System;

10. Unicode implementation;
11. Digital collections and institutional repositories;
12. Wireless and handheld device applications;
13. Library access monitoring and control, smart card system;
14. Systems enhancements and upgrade; etc.

### **3.2.3 Knowledge Sharing and Professional Networking**

Apart from quarterly meetings of Standing Committee members, HKIUG also holds annual conferences since year 2000 to promote knowledge sharing and professional networking among member libraries.

The key objectives of annual conferences are to offer library professionals in our region an opportunity to present the innovative projects and applications which they have developed for improving library services. It also aims at providing a forum for sharing experiences, common concerns, and views on the future direction of library automation and digital libraries.

The annual conference is normally held in late November or early December each year, with a two-day programme consists of presentations by library professionals and commercial service providers on various topics of library automation and digital libraries. The conferences mainly open to INNOPAC libraries across East Asia, including China Mainland, Hong Kong, Macao, Taiwan, Japan, Korea, and ASEAN countries. It also provides ample opportunities for librarians in Hong Kong to meet and share ideas with colleagues from all types of libraries in the region.

Since 2000, four HKIUG annual conferences have been hosted by local university libraries, i.e. the Baptist University, the Chinese University of Hong Kong, the University of Hong Kong, and Lingnan University respectively. As the most important annual event on library automation in Hong Kong, responses to the conference have been overwhelming. In 2003, there were over 230 participants from local and abroad took part in the annual conference held at Lingnan University<sup>7</sup>. The 2004 Annual HKIUG Conference will be hosted by City University.

The HKIUG website<sup>8</sup> is also instrumental in promoting knowledge sharing among member libraries. Established in 2000, the website is maintained by Lingnan University Library. It serves as a major knowledge base of local

---

<sup>7</sup> <http://hkiug.ln.edu.hk/meetings/am2003/>

<sup>8</sup> <http://hkiug.ln.edu.hk/>

library automation development, with archives of HKIUG quarterly meetings since the group's establishment in 1996, PowerPoint slides and digital video recordings of presentations made in annual HKIUG conferences, discussions on the HKIUG email listserv (established in December 2001 and maintained by the University of Hong Kong Libraries), and documentation of the HKIUG Unicode Project.

HKIUG also periodically organize seminars, round table meetings, and technical trainings for member libraries. Recent examples are:

1. The WebOPAC Administration Workshop offered by Innovative Interfaces, held at the Chinese University of Hong Kong in December 2003;
2. The Unicode Seminar held at the Chinese University of Hong Kong in July 2003;
3. INNOPAC MARC Load Profile Workshop offered by Innovative Interfaces, held at the Baptist University in April 2002.

### **3.2.4 Facilitating Regional Cooperation**

The HKIUG maintains close contacts with other INNOAC libraries and Innovative Users Groups in our region. HKIUG's annual conferences and workshops are well attended by librarians from INNOPAC libraries in China Mainland, Taiwan, Macao, Japan, and Singapore. Hong Kong's convenient location and bilingual environment has made the city an ideal place for library professionals and vendors in the region to come together and share common concerns and vision on issues such as CJK support and Unicode implementation. HKIUG member libraries also actively participate in activities of the International Innovative Users Group. Apart from attending annual conferences of the International IUG, Hong Kong Libraries have also made presentations and won international reorganization for their innovative service initiatives. These include:

- Hong Kong Baptist University – First Be Innovative! Award (2002), Most Innovative Staff Module: for their interface that facilitates reviewing and ordering titles from book lists and approval plan slips.
- University of Hong Kong - 2004 Be Innovative! Award, Most Innovative Digital Collections: for creating a computer application that harvests title and holdings information from e-resource providers for the University's 8,000 e-journal titles.
- Lingnan University – First Hong Kong Library to make a presentation at the International IUG Conference: “Enhancing Bibliographic Records with

Value Added Information from Online Bookstores” at the Innovative Users Group 12<sup>th</sup> Annual Conference, Boston, 3 April 2004.

#### **4. Conclusion**

After examined international and local trends of library automation in the past 15 years<sup>9</sup>, one would find that libraries in Hong Kong are among international forerunners of applying new technology to enhance services. In some selected areas, Hong Kong libraries are even taking a leading role internationally. Examples are CJK data processing, Chinese name authority control, video-on-demand, e-journal cataloguing, and bibliographic record enhancement.

Academic libraries in Hong Kong have a fine tradition of cooperation and sharing. The Hong Kong Innovative Users Group is among the most successful examples of our combined efforts. By joining forces, HKIUG member libraries have been able to overcome all major challenges in the past decade.

With the rapid pace of technological change and ever-increasing budget pressure, libraries in Hong Kong are increasingly relying on resources sharing and integration to maximize their services. It is envisaged that the HKIUG will continue to play a leading role in library collaborations both locally and in this region.

---

<sup>9</sup> 1990 – 2004 issues of the “Automated System Marketplace” report were reviewed for the research of this paper. The report is published annually in the April issue of “Library Journal”.

**Appendix 1. HKIUG officers from 1996 to 2006**

<b>Year</b>	<b>Chair</b>	<b>Library</b>	<b>Secretary</b>	<b>Library</b>
1996 - 1997	Tommy Yeung	Lingnan University	Edith Wu	Chinese University of Hong Kong
	<b>Vice Chair</b>			
	W.K. Chan	Hong Kong Baptist University		
1998/1999	David Palmer	University of Hong Kong	Camilla Chang	Hong Kong Polytechnic University
1999/2000	M.K. Wong	Hong Kong University of Science & Technology	Edward So	City University of Hong Kong
2000/2001	Owen Tam	Lingnan University	Kent Li	Chinese University of Hong Kong
2001/2002	Camilla Chang	Hong Kong Polytechnic University	Y.O. Li	Hong Kong Baptist University
2002/2003	Edward So	City University of Hong Kong	Marthie de Kock	Hong Kong Institute of Education
2003/2004	Ha-lin Chiu	Chinese University of Hong Kong	David Palmer	University of Hong Kong
2004/2005	To be announced	Hong Kong Baptist University	To be announced	Hong Kong University of Science & Technology
2005/2006	To be announced	Hong Kong Institute of Education	To be announced	Lingnan University