

Trends & Issues in Library Technology

IFLA IT Section Newsletter

July 2018

IFLA WLIC 2018 Information Technology Section Related Events	1
The National Digital Library of China: Innovation, Development and Vision	2
Issues in Cataloging and Metadata for Video Games in National Library and Archives of I.R. of Iran	7
IFLA WLIC 2018 Information Technology Section Main Session	12
Information Technology Section	13



**World Library and Information Congress |
84th IFLA General Conference and Assembly**
24-30 August 2018 | Kuala Lumpur, Malaysia
Transform Libraries, Transform Societies

Information Technology Section Related Events

Thu 23 Aug, University of Malaya

Joint satellite with Reference & Information Services Section on *Reinventing Reference with Technology Transformations*

Fri 24 Aug, 11.15-13.15, Room 301

Information Technology SC I meeting

Sat 25 Aug, 13.45-15.45, Plenary Theatre

Joint session with Audiovisual and Multimedia Section on *Winning strategies for collecting, cataloguing, providing, playing, and preserving video games in libraries*

Sun 26 Aug, 13.45-15.45, Ballroom 1

Main session on *Celebrating IT innovations in libraries* [see page 12]

Mon 27 Aug, 13.45-15.45, Ballroom 1

Joint session with Preservation and Conservation Section on *Planning digital preservation: in for the long run*

Mon 27 Aug, 16.15-18.45, Room 302

Linked Data SIG Business Meeting

Tue 28 Aug, 13.00 - 13.30, Plenary Hall

Joint session with IFLA HQ on *Blockchain – is it worth the fuss?*

Wed 29 Aug, 12.00-13.00, Ballroom 2

Big Data SIG Business meeting and Open Session

Wed 29 Aug, 13.30-16:00, Room 302

Information Technology SC II meeting

Full IFLA WLIC 2018 program at <https://2018.ifla.org/conference-programme>

From the Editor...



It gives me great pleasure to be the new editor of TILT and to welcome you to the July 2018 issue! I am an Information Specialist at Mount Sinai Hospital in Toronto, Canada with a keen interest in IT in libraries and beyond.

This issue features ongoing projects and latest digital initiatives at the National Library of China and how video games, an effective teaching and learning tool, is shaping cataloguing at the National Library and Archives of I.R. of Iran.

As IFLA WLIC 2018 is fast approaching, check out the IT Section related events and activities in this issue. To learn more on these meetings please feel free to contact any of your section officers. We look forward to seeing you in Kuala Lumpur.

Remember that this is your newsletter. We want to thank those who submitted their contributions and to Kathi Miniard for formatting/publishing this newsletter. We encourage and welcome contributions big or small, this can be in the form of your thoughts or ideas, case studies, general articles, book or article reviews and conference reviews.

Until next issue, happy reading!

Michelle Ryu, *Editor*
michelle.ryu@sinaihealthsystem.ca



The National Digital Library of China: Innovation, Development and Vision

LI Chunming; Chen Ning

Director, Legislative Reference Service, National Library of China, PRC

< licm@nlc.cn >

1. THE NATIONAL DIGITAL LIBRARY OF CHINA (NDLC): AN OVERVIEW

With years of theoretical research and operational progress, China has established a digital library development and service system that is composed of the national library, sector libraries and regional libraries. The National Library of China (NLC) is among the earliest institutions nationwide that has conducted research and development on digital library. Preliminary research dates back to the 1990s, and the National Digital Library of China (NDLC) program was launched in 2005.

Major tasks of NDLC

- Establishing hardware and software platforms that meet the requirements of a digital library system operation including an Internet network, storage and disaster recovery, cluster, digital resources processing, digital resources organization and management, and digital resources release and service;
- Digitizing featured collections, collecting and preserving important digital resources databases and Internet information as well as establishing a national center for long term preservation of academic digital resources;
- Building a Chinese information resources platform that offers services to government departments, educational and academic institutions, enterprises, and the general public as well as provide service support for other digital library systems;
- Formulating a standard and norm system for the national digital library system particularly key technologies and standards related to Chinese information resources processing.

In line with the life cycle of production, organization, conservation and release service of digital resources, the NDLC covers business areas including standards and norms, software and hardware platforms, resource development and service system. The general system architecture includes the system infrastructure, digital resource collection and production, digital resource organization and preservation, digital resource release and service, searching functions, as well as supporting systems, such as unique identifier system, copyright management system, and the unified user portal.

The entire system has achieved effective synergy based on the modular core business systems and the internal links among subsystems of various function modules. As the hub for preserving cultural heritage and promoting knowledge and information in China, the NDLC has been an active advocate for data development, management and utilization.

By January 2016, the total amount of data resources reached 1181.57TB, which covers a range of media formats including e-books, e-journals, e-newspapers, e-dissertations, conference papers, audio resources, video resources and over 260 million pages of featured digitized resources. The Wenjin search system hosts over 300 million items of metadata. The digital resources are available to readers through the Internet, mobile network broadcast and TV network and on terminal devices including touch screens, smart phones and digital television.

NDLC Promotion Program



To comprehensively improve the development and service capacities of digital libraries and better satisfy the cultural needs of the public, the Ministry of Culture and Ministry of Finance jointly issued a circular in May 2011 to implement the “National Promotion Program of Digital Library” during the 12th Five-Year Plan (2011-2015). This would promote the achievement of digital library software and hardware platforms, establish standardized and inclusive digital library systems, and provide the public with customized, diversified, and all-media digital library services.

By December 2016, the program had covered 51 provincial libraries including children's libraries, 479 municipal libraries and over 2900 county-level libraries. Around RMB 2 billion has been invested in digital library construction at various levels from 2011 to 2015.

The program aimed at substantially improving digital library infrastructure and doubling the average network bandwidth, storage capacity and server speed at the local level. (The average bandwidth access at the provincial level has reached 516.5Mb/s, 158% higher than that of year 2010, the ending-year of the 11th Five-Year Plan of China). It has adopted a hybrid cloud architecture, with the NDLC as the core, provincial libraries as regional hubs, and municipal libraries as sub-hubs. Over 10,000 servers, network equipment, storage equipment and other hardware facilities of public libraries at all levels are connected via Internet, with the data and networks being monitored by an exclusive operation and management platform.

2. INNOVATION AND APPLICATION OF NATIONAL DIGITAL LIBRARY OF CHINA (NDLC)

In accordance with the concept of innovation, coordination, green development, openness and sharing, and offering services and carrying on the program simultaneously, the NDLC has been working on technological convergence and innovative service patterns and channels. With the adoption of new media technologies, the coverage and influence of public cultural service system has been significantly improved, thus bringing tangible benefits of digital culture to the general public. The ultimate objective of NDLC is aimed at building a new type of cross-network and cross-terminal service pattern, which is based on the Internet, broadcast network and mobile communication network. Below are some examples of NDLC innovation.

Information resource integration and revelation

- Development and service of Wenjin Search System

The NDLC has independently developed a brand-new resource retrieval system named "Wenjin", which has effectively integrated self-built data of NDLC and purchased digital resources, realizing a one-stop acquisition of massive resources, multi-dimensional clustering and navigation of retrieval results, as well as customization and delivery of retrieval service. Since its launch on September 29, 2012, the Wenjin system has accumulated over 300 million pieces of metadata. Further system optimization and expansion are planned in order to enhance more customized services for users.

- Building super-large metadata repositories

In order to solve the problem of dispersed storage and low efficiency in the use of metadata, the NDLC is taking steps to build and improve the super-large metadata storage system. Since then over 20 million new pieces of metadata are added annually. The scientific management of metadata has been made possible with the unique identifier system. Each piece of metadata is marked with a unique identifier, and thus the correlation is established between metadata and service-level object data.

Supported by the NDLC Promotion Program, the co-building and centralized storage of digital resources of public libraries at different levels nationwide has been achieved. According to statistics, 111 libraries plan to contribute 693,700 pieces of self-built resources metadata, 79 libraries are expected to upload 314,200 pieces of UID (Unique Identifier) data, 229 libraries are to release 2,936,480 pieces of government information data, and 196 libraries are to digitize 4,631,650 pages of materials.

- Integration of information resources

With the change of data composition in the library sector, structured data no longer dominate and the ratio of semi-structured data and unstructured data is on the rise. Previously, data were isolated from each other and the adoption of new ways and methods serves as the solution to better information integration and service.

The NDLC is making efforts to carry out information resource integration in order to build a scientific and appropriate knowledge organization system. With the integration, clustering and reorganizing of massive heterogeneous digital resources, the resources are presented from data-level revelation and description to data mining and knowledge exploration. With information clustering based on the association of metadatas as well as in-depth indexing of self-built resources, the resources are further integrated at the literature level. The discovery and retrieval of knowledge are therefore facilitated as a result of the physically or logically integrated digital resources.

- Improving platform architecture and user experience

Structural difference and semantic conflicts are inevitable among different sources of materials. With the adoption of distributed file system, distributed parallel computing, distributed database and other technologies, the storage and retrieval of distributed and heterogeneous resources can be effectively realized in the context of big data. Targeted at various types and media formats, the NDLC is taking efforts to build an integrated discovery and retrieval environment and transform the traditional IT architecture, data storage and management approaches.

Additionally, staff are working on improving the capabilities for resources release different channels including the Internet, tablet computer, and mobile devices; transforming resources release and service system; redesigning the master station revision to present data in a visualized manner; and, improving user experience through newly-added and enhanced functions for customized services.

- Establishing a big data analysis system

The NDLC has started building a big data analysis platform. That can innovatively provide strong support and reference for decision-making and operation of the library, and make use of the information values contained in big data through processing and analyzing resources data, user data, business data and management data.

For instance, with its extensive data collection and integration, the system presents a whole picture of the NDLC such as the distribution of readers' age, gender ratio of readers, distribution of login frequency, status of book loans, etc. For the Wenjin system, big data analysis provides information on the distribution of key search words retrieval results and sorting as well as the visits to databases guided by the Wenjin search engine.

National Library Open Courses

Based on an innovative online learning platform, Massive Open Online Course (MOOC) has become an important method of citizen education in the Internet era. The National Library Open Courses (<http://open.nlc.cn>) were officially launched on April 23, 2015, which also marked the 20th World Book and Copyright Day. On this open course platform, over 1,000 sessions of high-quality courses are classified into 11 themes, such as classical books, lectures on intangible cultural heritage, etc. The courses are designed and recorded with rich content and diversified topics, such as "the Silk Road" and "Chinese characters and Chinese culture".

In terms of services, we highly value the association of knowledge discovery and user experience, advocating the provision of diversified reading pattern, in which Internet resources are accessible both online and offline, and presented by video and text simultaneously. Through deep mining of the existing resources of the National Digital Library, background knowledge of the courses is presented in text, pictures, audio and video. The open courses are linked to relevant collections held at the NLC, such as books, periodicals, etc., offering readers a comprehensive perspective on themed knowledge. Moreover, the courses are also accessible with mobile devices, enabling the readers to learn the courses anytime and anywhere in a portable manner.

Next, we will further give full play the resources and service strength of the open courses platform. Under the framework of the course development plan, we are to implement the organization of linked data, forming linked data sets on the basis of RDF semantic description and W3C linked data standards. In so doing, we will be able to realize the extension of resources revelation focus from literature level to content level.

Web archiving and related services

The NDLC started Internet information resources collection on an experimental basis in 2003, joined IIPC in 2007, and established the National Library Internet Resources Preservation and Conservation Center in 2009. With over a decade of development, progress has been made in terms of Internet resources assessment, acquisition policies, technical application, platform development, data mining and analysis, user service and experience, cooperation patterns, etc. By 2015, the preservation scope covered three parts, i.e. domestic websites, overseas websites and domestic thematic resources, with the total amount of data reaching over 100TB.

Apart from collecting Internet information resources, the NDLC also gives priority to effective content organization and preservation. Tentative measures have been taken to invite non-governmental institutions to participate in the building and collaboration of "Internet information preservation project". This has effectively complemented the insufficient capabilities of NDLC in terms of Internet bandwidth provision, software development and personnel shortage.

The NDLC also attaches importance to standards formulation, actively develops Internet information collection technologies and relevant norms and standards that are appropriate to China's national conditions and language. Aimed at improving service performance on the basis of the usability, stability and accuracy of data, the NDLC has formulated rules on metadata cataloguing and strengthened the management of data collection. Furthermore, progress is also underway to develop an integrated management system applicable to Chinese information resources acquisition environment. Supported by the digital library promotion program, the Internet information resources preservation has become an important part of joint digital resource building nationwide, with the relevant work extended to public libraries around China.

New media services of NDLC

In the era of mobile Internet, social media applications such as Weibo and Wechat, are becoming important life service platforms for people.

- Weibo and Wechat services

To make use of these innovative applications, the NDLC has registered both Weibo and Wechat accounts to deliver resources and release information to library users. The official Weibo account has 191,000 followers, with 6,722 pieces of information released and over 2,500 times of interaction with followers.

A comprehensive update has been completed for the Wechat service, with customized services, and precise delivery and interactive sharing are achieved via three modules-information, resources and services. Through the connection between the Wechat platform and unified user portal, the users can link their Wechat account with NLC's membership card. With such a link, users can search books, request books, and renew books. By automatic matching of the keywords sent by users, the Wechat platform responds to users' inquiries and offers guidance on readers' discovery of resources from the NDLC. About 56,000 users have registered for the service.

- Mobile reading platform

In 2013, in cooperation with regional public libraries, the NDLC established a mobile reading platform to serve public reading. By the end of 2015, 149 public libraries had participated in the co-building of the platform. The platform-facilitated libraries at different levels to rapidly set up mobile service or to further enrich their service forms. Over 50,000 quality e-books, thousands of e-journals and magazines, more than 30,000 pictures and over 1,000 sessions of video lectures as well as other featured resources of regional public libraries are available on the platform. Based on the quality digital resource, the platform provides users with a reading environment that is accessible anytime and anywhere.

- Digital TV, IP TV, and Internet TV Services

In the broadcasting industry, the emerging interactive digital TV service has a very high popularity rate with the "large screen" equipped with Internet connectivity, where VOD, payment, book borrowing and other services can be realized.

With the abundant print collections and digital and digitized collections, the NDLC has offered innovative services in new technological environment, expanded service radius, and opened up ground interactive digital TV and IP TV service. In cooperation with the China Radio International and the adoption of integrated technologies, the NDLC has launched "National Library Open Courses" Internet TV service globally, including open Internet network, multimedia and communications technologies.

Users can watch the featured content by logging into the main service interface of Internet TV top box, and selecting the programs of "National Library open Courses". Demonstration services have been completed in Xinjiang, Wuhan, Beijing and other parts of China. The Internet TV service of the NDLC also covered 94 countries worldwide, with a total of over 2,000 users.

Digital Library Demonstration Zone to on-site library readers



In order to provide quality user experience for the general public, the NDLC has taken the lead in China to establish a digital library experience zone. The Zone is designed to exhibit the achievements of NDLC towards on-site library readers by means of technology, and in a flexible, interesting and interactive way.

The Zone mainly consists of four sections – NDLC achievements, digital library interactive experience, resources exhibition and introduction, and future programs planning – along with many other multimedia exhibitions.

Smart management of library services

Apart from the above-mentioned new technologies, the NDLC also offers services including self-service card registration, self-service borrow and returning, access control management, smart bookshelf and navigation for shelf location positioning. Smart management of library resources is made possible with RFID technology. The accuracy of shelf location was improved by the semi-automation and intelligent operation of book inventory and shelf arrangement.

3. NEXT STEPS

The period of the 13th Five-year Plan (2016-2020) will see further merger between digital library development and core technologies such as big data. Efforts will be made to establish Chinese culture resources databases, an integrated big data service platform for Chinese culture promotion as well as online and off-line one-stop service platform of public culture.

Innovating development concepts, improving digital library network and platform building

Driven by the “Internet plus” strategy, efforts will be made to enhance the merger between digital library and core technologies, such as cloud computing and big data, promote technical innovation of digital library, and improve the building of digital library network and software and hardware platform.

Improving resource development and usage performance, and building an environmental-friendly and sustainable development model for digital library.

Relevant measures include the following:

- Systematically planning digital resource content;
- Boosting joint building of library resources in China;
- Enhancing resource integration and performance evaluation; and
- Increasing all-media resources construction.

Sharing the achievements of digital library promotion program, and improving the benefits coverage of digital library for the general public

- Effort is made on the “poverty alleviation” initiative, promoting equity access of basic public culture services. Digital library services are to be extended to revolutionary base areas, regions of ethnic groups and border areas as well as to grass-root levels and disadvantaged groups.
- Offering services to China’s “mass entrepreneurship and innovation” initiative.
- Promoting the “Online Book Reading” brand, and coordinating with the Reading Promotion Program in China.

Enhancing measures for implementation, and boosting collaborative development

The program is to enhance overall planning and coordination, and supporting the policies and implementation plans for the 13th Five-year Plan should be formulated to be compatible with the regional development status. Additionally, assessment, supervision and feedback mechanism of the digital library promotion program need to be improved in terms of work progress, service efficiency and allocation of funds. Financial and personnel support are also considered high on the agenda of the program.

Opening up the standards of digital library and promoting multi-party cooperation.

- Advancing the building and sharing of standards and norms

With the objective of standards promotion, relevant norms need to be formulated so that libraries can follow in digital resource processing, discovery, management, conservation and service. Effort should be made on the establishment of guidelines on public digital culture services as well as a dynamic adjustment mechanism, thus giving full play to the fundamental role standards and norms in the development of public digital culture system.

- Seeking and promoting multi-party cooperation

We will strengthen the coordinated development with other cultural projects and other types of public culture service organizations, and improve the overall performance of public digital culture projects.

With the introduction of marketing mechanism, the social influence of the NDLC can be improved. Relevant market-based approaches can be adopted in resources building and services promotion, such as acquisition, donation, and outsourcing. Additionally, more diversified collaboration is encouraged, such as interlibrary cooperation, inter-cultural institutions, as well as between libraries and non-governmental organizations. ■ ■

Issues in Cataloging and Metadata for Video Games in National Library and Archives of I.R. of Iran

Soheila Faal

Head of Non-book Resources Organizing Section of National Library and Archives of I.R. of Iran
< soheilafaal@gmail.com >

Mahboubeh Ghorbani

Deputy General Manager of Research and Education, National Library and Archives of I.R. of Iran
< mahghorbani1353@gmail.com >

Introduction

Video games have a particularly important status given their influence on culture, the growth and improvement of the academic and cultural character, their educational role, and their role in filling a portion of the free time of different age groups. A video game is a game which we play thanks to an audiovisual apparatus and which can be based on a story (Esposito)¹.

The production and supply of video games for children and young adults in Iran intended for education and entertainment, has been experiencing a tremendous growth. The production and distribution of such products are overseen by the Computer and Video Games Foundation of Iran. Currently, different Iranian institutions are working within the field of video game design and production.

The screenshot shows a web browser window with the URL en.ircg.ir/game. The page title is "Games" and there is a "Create or Edit Profile" button. Below the title are three filter dropdown menus: "Genre" (set to "Genre"), "Year" (set to "Year"), and "Platform" (set to "Platform"), followed by a "Show" button with a list icon. The main content is a grid of 12 video game entries, each with a circular cover image, a title, and a genre icon:

Game Title	Genre
Forgotten Sound 2	Adventure
Hexon	Simple
Devil in Capital	Adventure
English Tree	Simple
Crystallium	Simple
Corridor	Action Adventure
Cold Mountain	Action
Warriors	Action
Shadow Racer	Online
Bardia	Action Adventure
XaraVan	Strategy
The Look of Evil	Adventure

The National Library and Archives of I.R. of Iran (NLAI) constantly adds various visual, audio, and software resources to its collection. Since the NLAI is entrusted with collecting, organizing, promoting, and preserving the written and non-written heritage of the country, organizing these resources are also be in the NLAI Programs.

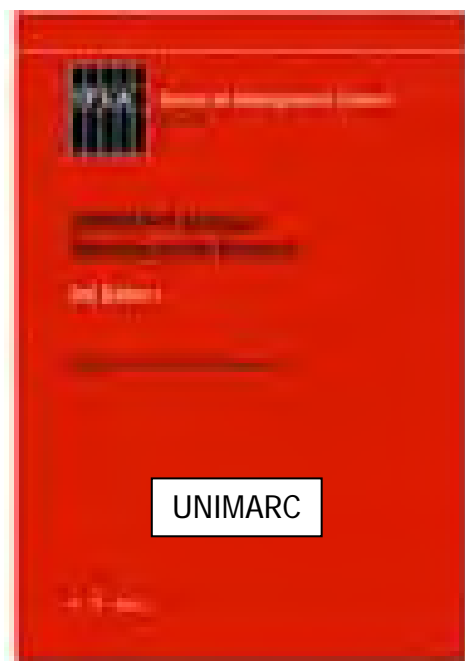


Resource organization at NLAI

The following standards are currently in use at NLAI for cataloging books and non-book materials:

1. Anglo American Cataloging Rules, Second Edition (AACR2)
2. International standard Bibliographic Description (ISBD)
3. Universal MARC (UNIMARC) The use of MARC dates back to 2006. IRAN MARC is a customization of UNIMARC.

Iran MARC, which was created more than a decade ago, is the localized version of the IFLA UNIMARC standard which is updated constantly. It is a platform for designing worksheets and indexing these sources and other data, which is then carried out according to the Draft Guidelines for Cataloging Electronic Resources.



Designing a Worksheet

Given the diversity of video games and the duties entrusted with NLAI for organizing such resources, certain measures are taken for the preparation of the general description of the worksheet based on indexing principles and using metadata standards. Aside from providing an overview of past experiences in indexing software products and especially video games, this project attempted to assess the potentials for the organization of national video games based on the IRAN MARC indexing standard. So we proposed such resources; and then entered the data of 25 video games in the worksheet.

Video games are organized as the Non-book Resources Group that is a part of the Processing and Organizing Department. Worksheet types are designed according to this division and both major and minor fields' worksheets of 10 blocks and are made to describe any resource. We have designed the electronic resources worksheet for video game on the basis of UNIMARC. The mentioned worksheet has been localized with the use of Iran MARC and it is available on the NLAI software (RASA).

Descriptive and Subject Cataloging of Video Games

The first part of AACR2 is related to descriptive cataloging. Table 1 shows the AACR2 and UNIMARC standard in the video game descriptive cataloging.

Table 1. The AACR2 and UNIMARC standard in the video game descriptive cataloging

Area	Descriptive element	AACR2	UNIMARC (field)	UNIMARC (block)
Title and statement of responsibility	Title proper	9.1B	200\$a	Descriptive Information (2)
	GMD [Electronic resources]	9.1C	200\$b	
	Parallel title	9.1D	200\$d	
	Other title information	9.1E	200\$e	
	Statement of responsibility	9.1F	200\$f	
Edition		9.2B	205\$a	
Publication and production	Place of production	9.4C	210\$a	
	Publisher and Concessioner	9.4D	210\$c	
	Date of production	9.4F	210\$d	
Physical description	Specific Material Designation and Extent of Item	9.5B	215\$a	
	Other Physical Details	9.5C	215\$c	
	Dimensions	9.5D	215\$d	
	Accompanying Material	9.5E	215\$e	
Series description	Series Title	9.6B	225\$a	
	Other Title Information	9.6B	225\$e	
	Volume Designation	9.6B	225\$v	
Note	Nature and scope	9.7B1	300	Notes (3)
	Language	9.7B2	300	
	Source of title proper	9.7B3	304	
	Statements of responsibility	9.7B6	304	
	Edition and history	9.7B7	305	

	Publication , distribution, etc	9.7B9	306
	Physical description	9.7B10	307
	Related title	9.7B4	312
	Pertaining to intellectual responsibility	9.7B6	314
	Credits Note	9.7B6	322
	Cast Note	9.7B6	323
	Content	9.7B18	327
	Abstract	9.7B17	330
	Audience	9.7B14	333
	Type of electronic resource	9.7B8	336
	System requirements	9.7B8	337

The second part of AACR2 is related to the subject analysis and link points. Table 2 shows the applied fields in UNIMARC.

Table 2. The UNIMARC standard application in the websites links and subject analysis

	Field name	Field number	Block number
	Parallel Title Proper	510	Related Title (5)
	Other Variant Titles	517	
	Expanded Title	532	
	Additional Title Supplied by Cataloguer	540	
	Personal Name Used as Subject	600	Subject Analysis (6)
	Corporate Body Name Used as Subject	601	
	Title Used as Subject	605	
	Topical Name Used as Subject	606	
	Geographical Name Used as Subject	607	Intellectual Responsibility (7)
	Personal Name - Secondary Intellectual Responsibility	702	
	Corporate Body Name - Primary Intellectual Responsibility	710	
	Corporate Body Name - Secondary Intellectual Responsibility	712	
	Electronic Location and Access	856	International Use (8)

The Utilization of Subject Systems at NLAI for Video Game Indexing

At NLAI the non-book resources are indexed with the use of controlled vocabulary.

Table 3 shows the subject systems. In addition to the following subject systems, others such as: LCSH, thesaurus, subject dictionaries, encyclopedias, public databanks, and subject databanks for authorizing, are also used.

Table 3. The subject systems application in video game indexing

Subject system	subject area
Persian Cultural Thesaurus (ASFA)	Humanity sciences
Science Thesauruses	Engineering sciences
Persian Subject Headings	All sciences

Below are two examples of video game data worksheets.

National bibliography number	: 1198918
Title and statement of responsibility	: Golden CD [Electronic resources]: 100 charming games.
Publication, Distribution, etc.	: Tehran: Borna Company, 2015.
Physical Description	: 1 compact disc: col.; 12 cm.
Notes	: English- Persian. Audience: Over 12 years old. This software is available with the DirectX 9.0 program.
Descriptors	: Computerized Plays Educational Games Iran

National bibliography number	: 2070623
Title and statement of responsibility	: Chess kanoon [Electronic resources]: ver. 1/ artistic supervision Majid Ghaderi; technical supervision Amirhosein Salamzade; project implementer Royagaran Software Company.
Publication, Distribution, etc.	: Tehran: Institute for the Intellectual Development of Children & Young Adults, 2004.
Physical Description	: 1 compact disc: col.; 12 cm.
Notes	: English- Persian. Audience: over 12 years old This software is available with the DirectX 9.0 program.
Descriptors	: Computerized Plays Chess Educational Games Iran
Added entries	: Ghaderi , M. Salamzade , A. Royagaran Software Institute for the Intellectual Development of Children & Young Adults

Considering the role of the National Library of Iran in formulating standards and coordinated formats for organizing resources in the country, designing and presenting this worksheet can help video games organization in the National Library as well as in the public, children and young adults, and other libraries. Another value of the project is to provide a template for the availability of these resources in libraries, which encourages domestic producers of these products with indigenous culture.

As the country's main library, the National Library needs to plan for collecting, organizing, and accessing new resources, so that publishers and developers are encouraged to deposit their products and complete the collection of these resource, as a part of the digital cultural heritage of the country. Organizing and displaying the indexing information of video games at the National Library's OPAC can inform digital media producers about the progress of this field in Iran.

The video game organizing project is part of the capacity and capability of the Non-Book Organization Group of the National Library; and in this regard, the group has designed and organized over 60 non-book material worksheets.

References

¹Esposito, Nicolas (n.d.) A Short and Simple Definition of What a Video game Is. Retrieved from: www.utc.fr/~nesposit/publications/esposito2005definition.pdf ■■

IFLA WLIC 2018 Information Technology Section Main Session Celebrating IT innovations in libraries Sunday 26 Aug, 13.45-15.45, Ballroom 1



The IT Section celebrates its 55th anniversary in 2018! Created in 1963 as library automation and information technology first emerged as important to libraries, it has remained a strong force within IFLA for promoting and advancing IT in all libraries and information services. IT affects all aspects of today's library, regardless of type or geographic location. Through its position in organizations, it is critical not only to the library but also to society as a whole.

This open session celebrates technologies and innovations over the last 55 years that still transform libraries today, and explores emerging and innovative technologies shaping libraries in the future. The session will present:

1. ILMS & digital libraries, Open Source, OER, Open Access, the Open Movement (*Edmund Balnaves, Prosentient Systems, Australia*)
2. MARC and beyond: our three Linked Data choices (*Richard Wallis, Data Liberate, UK*)
3. Embedded from the start: IT in the world's newest national library building (*Sohair Wastawy and Stuart Hamilton, Qatar National Library, Qatar*)
4. IT integration into LIS education: an academic librarian's perspective (*Lynn Kleinveldt, Cape Peninsula University of Technology, South Africa*)
5. Emerging and innovative technologies: IE University Library reinventing higher education (*Amada Marcos, IE University & IE Business School, Spain*)
6. Achieving ongoing technical innovations in libraries (*Frank Seeliger, Technical University of Applied Sciences, Germany*)

Join our invited speakers and reflect with us on the progress of library technology as well as developments that are still unfolding!



The Information Technology (IT) Section promotes and advances the application of information and computing technologies to library and information services in all societies, through activities related to best practices and standards, education and training, research, and the marketplace. The scope covers IT for creation, organization, storage, maintenance, access, retrieval, and transfer of information and documents for all types of libraries and information centers; IT for the operation of libraries and information centers; and, related management and policy issues. Of primary importance are applications of IT for supporting access to and delivery of information. In recent years, the use of technology in libraries have expanded to cover improved machine learning and AI techniques, digital humanities, and data analytics.

The section meets annually at the IFLA Congress; in between congresses, members collaborate with other Sections on programs and workshops. There are election ballots every two years as members complete their 4-year term. The IT Section is one of the largest in IFLA with over 300 members from nearly 80 countries, all types of libraries, and a range of disciplines. We welcome all members (<http://www.ifla.org/membership>).

The IT Section's website at <http://www.ifla.org/it> has news and resources regarding activities of the Section, session minutes, publications, and membership details.

The IFLA-IT email list provides a forum for members to exchange ideas and experience in the use of information and communication technologies in libraries. The list address is ifla-it@infoserv.inist.fr, and subscription is at <http://infoserv.inist.fr/wwsympa.fcgi/info/ifla-it>.

The Trends & Issues in Library Technology (TILT) newsletter is published twice a year in January and July.

Primary Contacts

Chair

May Chang, University of Cincinnati, United States
may.chang@uc.edu

Secretary

Maria Kadesjö, National Library of Sweden, Sweden
maria.kadesjo@kb.se

Information Coordinator

Maria de la Peña, Fundación I.E. Library, Spain
maria.delapena@ie.edu

Standing Committee Members 2017 - 2021

- Ahmed Abdelilah Bachr, Ecole des Sciences de l'Information, Morocco; abachr@esi.ac.ma
- Astrid Verheusen, Koninklijke Bibliotheek, Netherlands; astrid.verheusen@kb.nl
- Edmund Balnaves, Prosentient Systems, Australia; ejb@prosentient.com.au
- Elena Sánchez Nogales, Biblioteca Nacional de España, Spain; elena.sanchez@bne.es
- Jianyong Zhang, National Science and Technology Library of China, China; zhangjy@nstl.gov.cn
- Nthabiseng Kotsokoane, Monash University, South Africa Campus. South Africa; Nthabiseng.kotsokoane@monash.edu
- Peter Leinen, Deutsche Nationalbibliothek, Germany; p.leinen@dnb.de
- Sogoba Souleymane, University of Ségou, Mali; Sogoba.souleymane@gmail.com

Standing Committee Members 2015 - 2019

- Almudena Caballos Villar, Biblioteca de la Universidad Computense de Madrid, Spain; acaballo@ucm.es
- Álvaro Sandoval, Chilean National Library of Congress, Chile; alsandoval@bcn.cl
- Evviva Weinraub Lajoie, Northwestern University, United States; evviva.weinraub@northwestern.edu
- Leda Bultrini, ARPA Lazio, Italy; leda.bultrini@gmail.com
- Li Chunming, The National Library of China, China; licm@nlc.cn
- Lynn Kleinveldt, Cape Peninsula University of Technology, South Africa; lynn.kleinveldt@gmail.com
- Ngozi Blessing Ukachi, University of Lagos, Nigeria; nukachi@unilag.edu.ng
- Shawky Salem, Alexandria University ACML, Egypt; chairman@acml-egypt.com
- Youssef Salah, Bibliotheca Alexandrina, Egypt; youssef.salah@bibalex.org

Convenors 2017 – 2019

- Big Data SIG: Wouter Klapwijk, Stellenbosch University, South Africa; Wklap@sun.ac.za
- Linked Data SIG: Evviva Weinraub Lajoie, Northwestern University, United States; evviva.weinraub@northwestern.edu

Corresponding Members

- Heike Cardoso, University Tübingen, Germany; hcardoso@live.de
- Helga Schwarz, Germany; helga.schwarz@t-online.de
- Kazuo Takehana, National Diet Library, Japan; k-takeha@ndl.go.jp
- Joan Wee, Singapore Institute of Technology, Singapore; weejf@alumni.nus.edu.sg