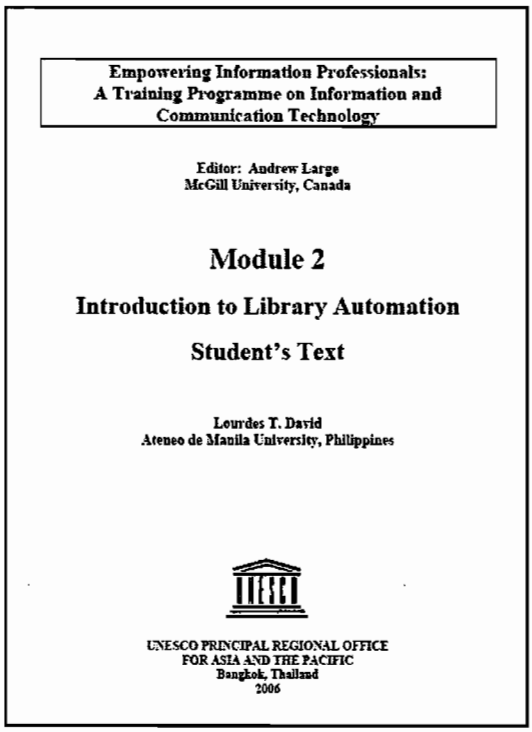
# Training programme for library staff
# Ho Chi Minh City spring 2008

Financed by
The Swedish International Development Agency (Sida)

In cooperation with
The National Library of Sweden,
The Ministry of Culture, Sports and Tourism, Vietnam
and The Ministry of Information and Culture, Laos

## Module 4: Introduction to Library Automation

## Instructor: Dr. Mats Lindquist



Empowering Information Professionals:
A Training Programme on Information and Communication Technology

Editor: Andrew Large
McGill University, Canada

**Module 2**

**Introduction to Library Automation**

**Student's Text**

Lourdes T. David
Ateneo de Manila University, Philippines

UNESCO PRINCIPAL REGIONAL OFFICE
FOR ASIA AND THE PACIFIC
Bangkok, Thailand
2006

Contains the material from the UNESCO Training Programme

Module 2

**Empowering Information Professionals:**
**A Training Programme on Information and Communication Technology**

**Editor: Andrew Large**
**McGill University, Canada**

# Module 2

# Introduction to Library Automation

# Student's Text

**Lourdes T. David**
**Ateneo de Manila University, Philippines**


**UNESCO PRINCIPAL REGIONAL OFFICE**
**FOR ASIA AND THE PACIFIC**
**Bangkok, Thailand**
**2006**

David, Lourdes T.

Empowering Information Professionals: A Training Programme on Information and Communication Technology. Module 2. Introduction to Library Automation. Student's Text. -- Edited by Andrew Large. Bangkok: UNESCO PROAP, 2006.

1. Library automation. 2.Integrated Library Systems. 3. Library Management Systems. I. UNESCO Principal Regional Office for Asia and the Pacific. II. Large, Andrew. Editor. III. Japanese Funds in Trust. IV. Title.

# Module 2
# An Introduction to Library Automation

# Student's Text

## Table of Contents

# Empowering Information Professionals: A Training Programme on Information and Communication Technology

## General Guidelines for the Student

### Introductory Note

Library schools are now changing their curricula to produce graduates who are prepared for the changing service requirements in libraries. The majority of practitioners, however, graduated before the advent of the Information Age or studied in schools that did not teach ICTs for various reasons. This group of practitioners is now finding itself unprepared for the new demands of the profession. This *Training Programme* is in response to this identified need.

People working in libraries and information centers are the primary target group of the *Training Programme*. It is intended to provide them with the knowledge and skills to deal with the application of ICTs to library and information services. It is also intended for use by teachers of students in library schools and of personnel in library and information centers. The Package has been developed by the UNESCO Asia and Pacific Regional Office with funding from the Japanese Funds in Trust for Communication and Information.

### Rationale

In 1961, Marion Harper Jr. wrote, "To manage a business well is to manage its future; and to manage the future is to manage information."[1] Less than 25 years later, John Naisbitt, in discussing the ten megatrends in his opinion were happening in the US, said "None is more subtle, yet more explosive, I think than this first, the megashift from an industrial to an information society."[2] According to Naisbitt, "In 1950, only 17 percent of us worked in information jobs. Now more than 60 percent of us work with information as programmers, teachers, clerks, secretaries, accountants, stock brokers, managers, insurance people, bureaucrats, lawyers, bankers and technicians." He groups librarians among professional workers who "are almost all information workers…"[3] Today, society is in the "Information Age," an age where information is power.

---

[1] Harper, Marion Jr. 1961. "New profession to aid management," *Journal of Marketing,* January, p. 1

[2] John Naisbitt entitled Megatrends : Ten new directions transforming our lives (New York, N.Y. : Warner Books, 1982), p11

[3] Ibid, p. 14-15

## Content of the Training Programme

The Training Program contains nine modules:

- Module 1 - Introduction to Information and Communication Technologies
- Module 2 - Introduction to Library Automation
- Module 3 - Information Seeking in an Electronic Environment
- Module 4 – Creation and Management of Databases Using CDS/ISIS
- Module 5 - The Internet as an Information Resource
- Module 6 - Web Page Concept and Design: Getting a Web Page Up and Running
- Module 7 - Library Management and Promotion
- Module 8 - Digital Libraries and Open Access
- Module 9 - Intellectual Property Rights in the Digital Age

The Student's Text contains the following:

- General Guidelines
  - Introductory Note
  - Rationale
  - Content of the Training Programme
  - Prerequisites
  - Typographical Conventions
- Overview of Module
  - Learning Outcomes
  - Schedule
  - Module Outline
  - Grading Policy
  - Lessons
  - List of Activities
  - Reading/Reference List
  - Glossary

## Prerequisites

The student must have a genuine interest in understanding the impact of new information technologies on the practice of Library/Information Service.

## Typographical Conventions

The following conventions are used through out the module.

**Course Guide**
**General introduction to the Modules**

**Course Objectives**
**General introduction to the learning outcomes of the Module**

**Note**
**General note to the teacher and additional information**

**Tip**
**Teaching tips and supplemental materials**

**Activity**
**Activity for the students**

**Assessment**
**Questions/Activities to measure learning**

## End of General Guidelines

# Module 2
# An Introduction to Library Automation

# Student's Text

## Overview

This is the **Student's Text of Module 2** of *Empowering Information Professionals: A Training Programme on Information and Communication Technology*. Module 2 is an introduction to library automation.

Module 2 covers the basic concepts of library automation, the impact of ICTs on the library and the steps in automating your library. It is not a prerequisite to the other eight modules. Prior knowledge could be credited but the student must take and pass all the tests for Module 1 to be allowed to take this module.

### Learning Outcomes

The goal of this Module is to provide the practicing librarian with the skills and knowledge needed to handle the demands of the Information Age. In addition, this course will provide insights on library automation

By the end of the Module, students should be able to:

1. Understand the scope of library automation.
2. Become aware of existing automated library/information systems.
3. Become aware of factors that must be considered in planning and implementing ICT applications in libraries and information centers.

### Schedule

| Day | Lessons |
|---|---|
| 1-2 | Lesson 1: What is library automation? |
| 3-4 | Lesson 2. What factors must be considered in planning and implementing library automation? |

Will be adjusted to three days.

## Outline

| ***Lesson 1. What is Library Automation?*** | |
|---|---|
| ***Scope*** | ***Objectives*** |
| • What is library automation?<br>• What are the benefits and difficulties of library automation?<br>• What is an integrated library system?<br>• What are the general features and functional modules of an integrated library system?<br>• What are some examples of ALS?<br>• What is the role of standards in library automation and resource sharing? | At the end of the lesson, students should be able to:<br>• Define library automation.<br>• Identify the benefits and difficulties of library automation.<br>• Define integrated library systems.<br>• Describe the general features and basic functional modules of an integrated library system.<br>• Identify some off-the-shelf and open source ALS.<br>• Understand the role of standards in library automation and resource sharing. |
| ***Lesson 2. What factors must be considered in planning and implementing Library Automation?*** | |
| ***Scope*** | ***Objectives*** |
| • What factors must be considered in planning for library automation?<br>• What factors must be considered in planning and implementing library automation?<br>• What are the difficulties in implementing an integrated library system? | At the end of this lesson, students should be able to:<br>• Appreciate the importance of planning.<br>• Identify factors that must be considered in planning and implementing library automation.<br>• Identify potential problems in planning and implementing library automation. |

## Grading Policy

A score of 40 points is needed to pass the Module. The breakdown of the points for the module exercises is as follows:

| **Lessons** | **Points** |
|---|---|
| 1. What is Library Automation? | 30 |
| 2. What factors must be considered in planning and implementing library automation. | 20 |
| **Total** | **50** |

**End of Overview Module 2**

# Module 2
# An Introduction to Library Automation

# Student's Text

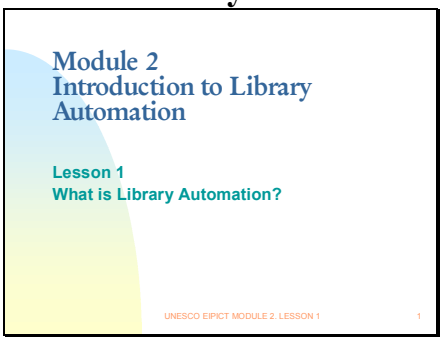
# The Lessons

**Lesson 1: What is Library Automation?**

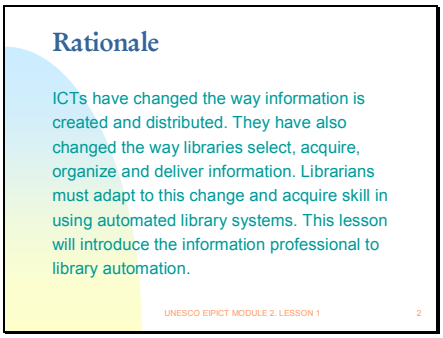
**Lesson 2: What Factors must be considered in Planning and implementing Library Automation?**

# Lesson 1: What Is Library Automation?

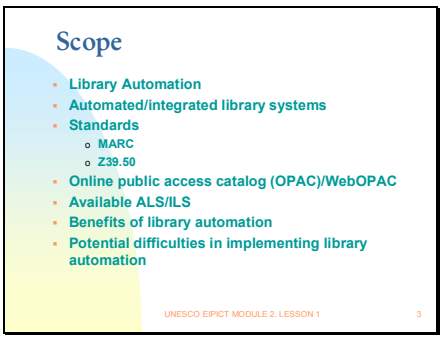
Slide 1



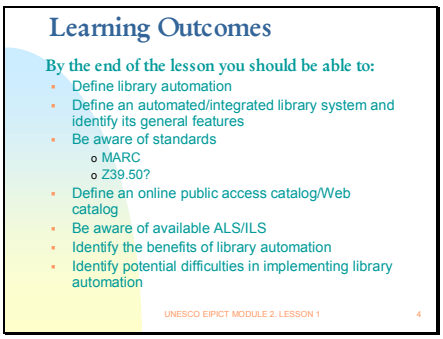

Slide 2



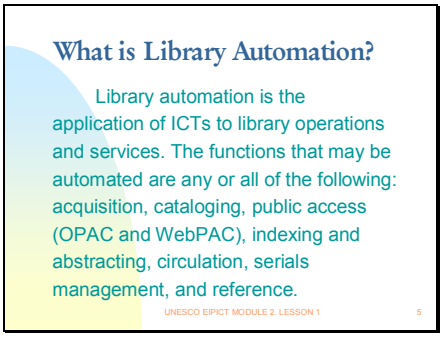

Slide 3



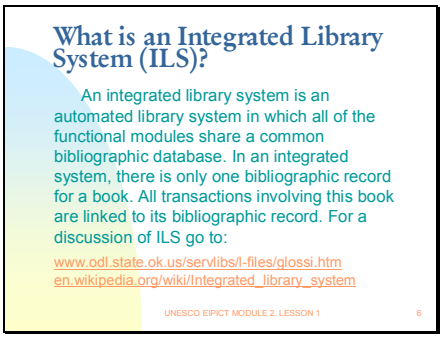
Slide 4



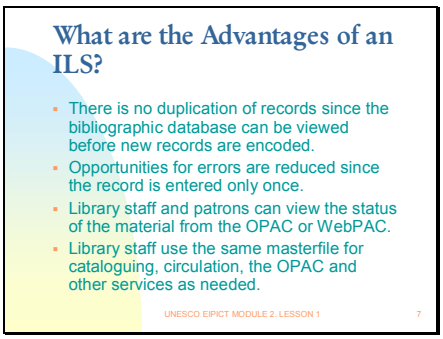

Slide 5



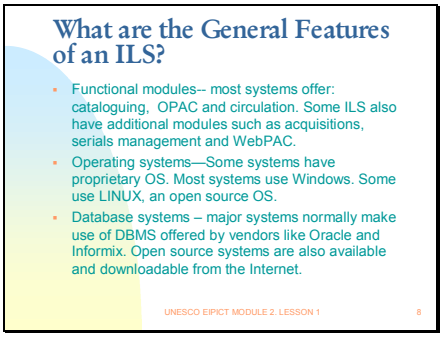

Slide 6



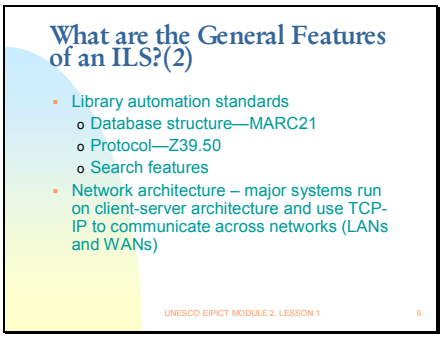
Slide 7



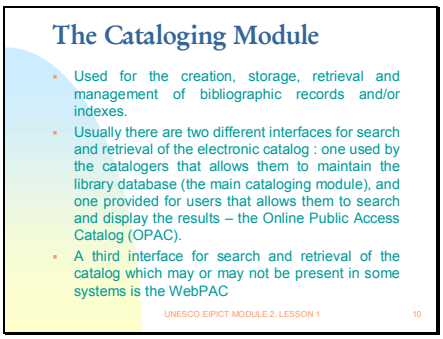

Slide 8



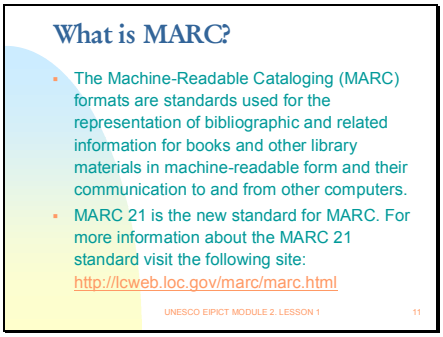

Slide 9



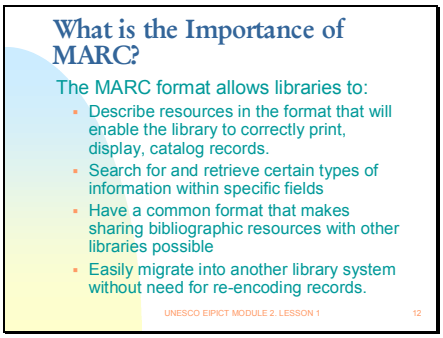
Slide 10



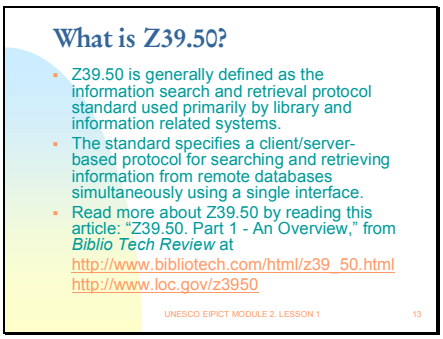

Slide 11



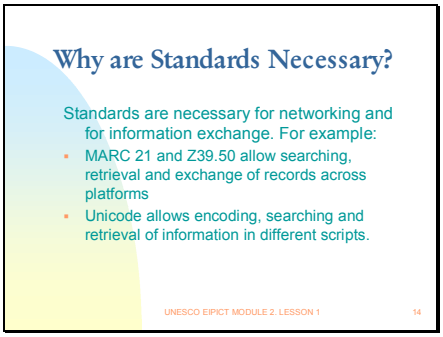

Slide 12



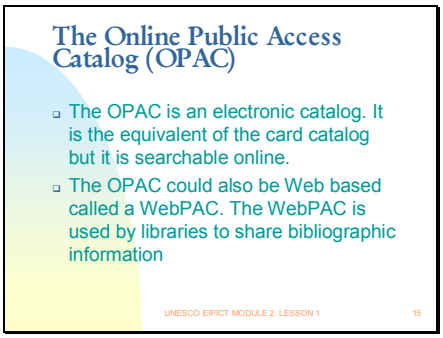
Slide 13




Slide 14




Slide 15



Slide 16

## The Circulation Module

- The basic components of an integrated library system are the cataloguing module, the OPAC and the circulation module.
- The circulation system is the transaction module that allows the system to loan out and receive returned materials. The transactions are automatically linked to the cataloguing module to enable users to find out if materials are available for loan or have been borrowed.



Slide 17

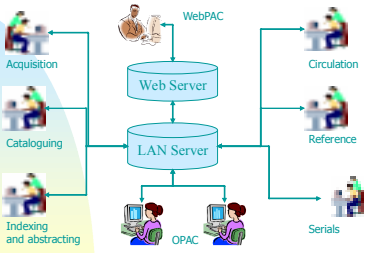
## What are the Other Modules in an ILS?

- The basic modules are cataloguing, circulation and the OPAC
- Other modules which may be present are:
  - Serials management
  - Acquisitions
  - Interlibrary loan
- For a discussion of ILS modules please go to "Integrated Library System Reports: Vendors info." URL: http://www.ilsr.com/search2.cfm

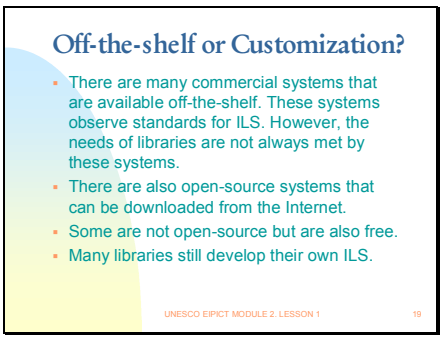


Slide 18

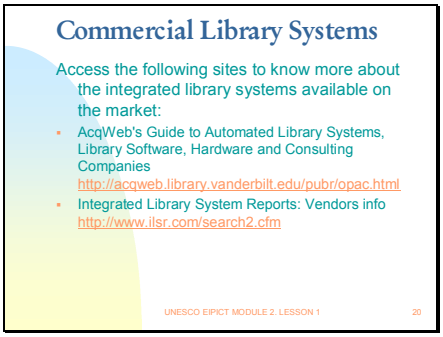
## An Integrated Library System with Web Access



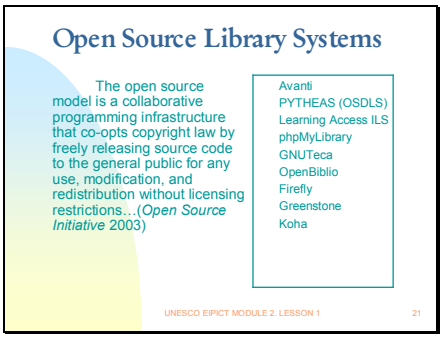
Slide 19



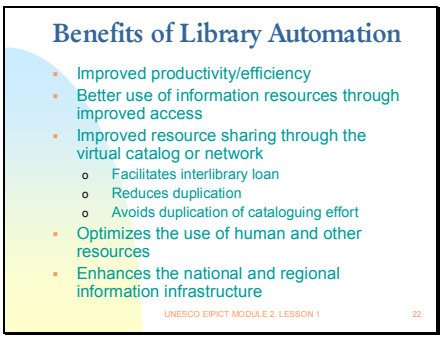

Slide 20



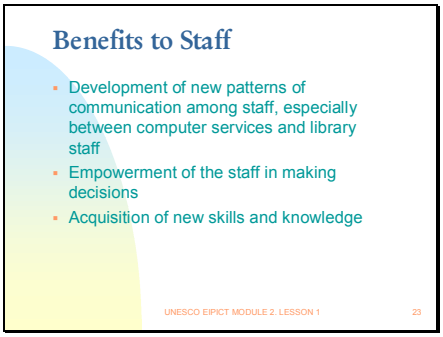

Slide 21



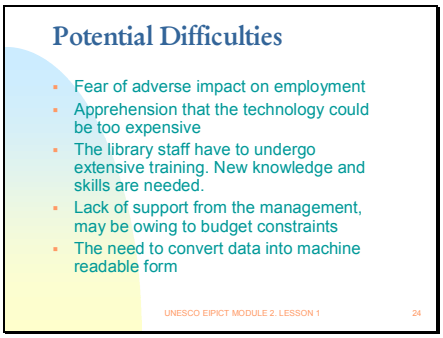
Slide 22



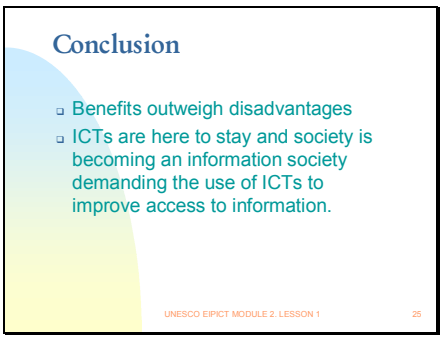

Slide 23




Slide 24



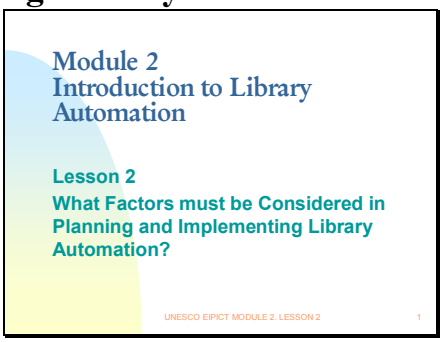
Slide 25



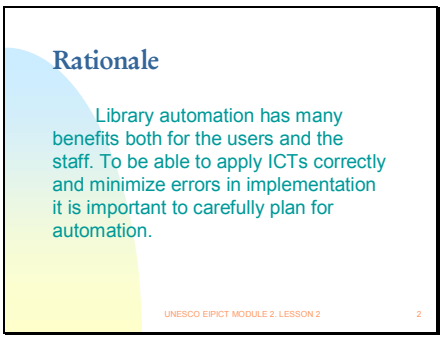

## End of Lesson 1 Module 2

# Lesson 2. What Factors Must Be Considered in Planning and Implementing Library Automation?

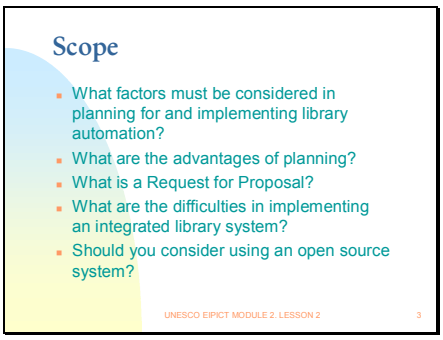
Slide 1




Slide 2




Slide 3



Slide 4

## Learning Outcomes

At the end of this lesson, students should be able to:

- Appreciate the importance of planning.
- Identify factors that must be considered in planning and implementing library automation.
- Understand the importance of a Request for Proposal
- Evaluate the pros and cons of using open source systems.



Slide 5

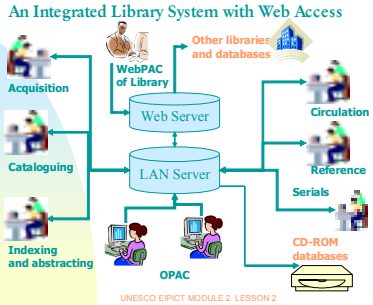
## Library Automation Today

Today's users expect the automated library system to provide access to the cataloguing, circulation, public catalog (OPAC) and acquisitions modules of the library and also to provide access through the system to information in other libraries, CD-ROM databases on a local area network (LAN), and the Internet.

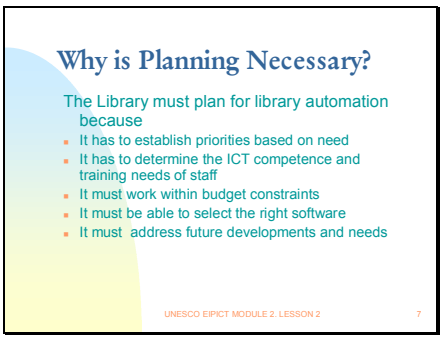


Slide 6

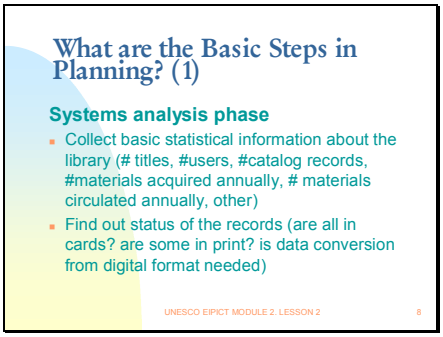
## An Integrated Library System with Web Access



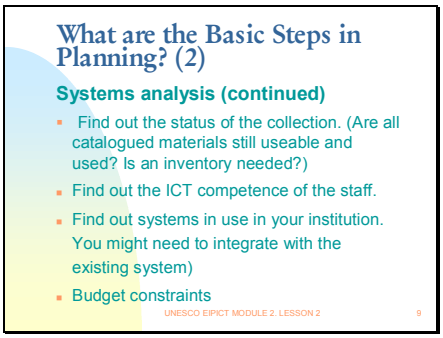
Slide 7



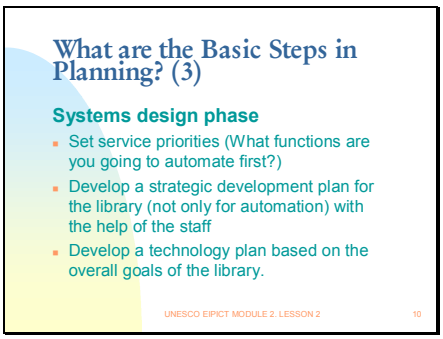

Slide 8



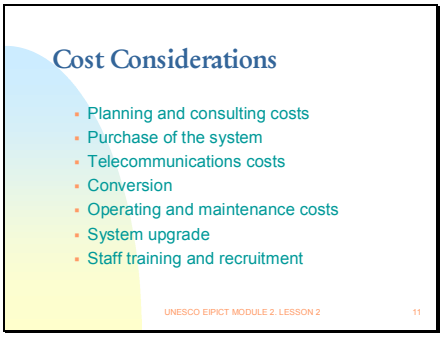

Slide 9



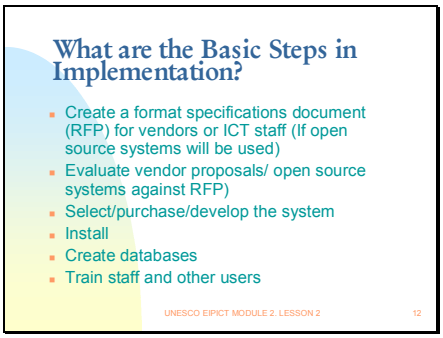
Slide 10



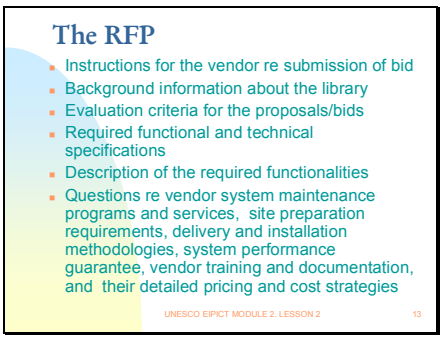

Slide 11



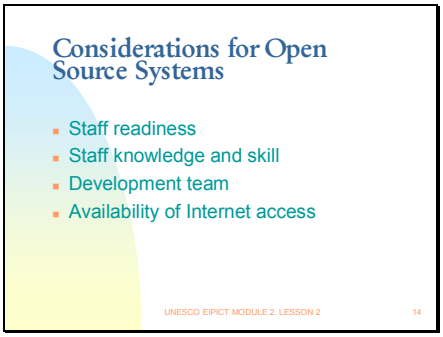

Slide 12



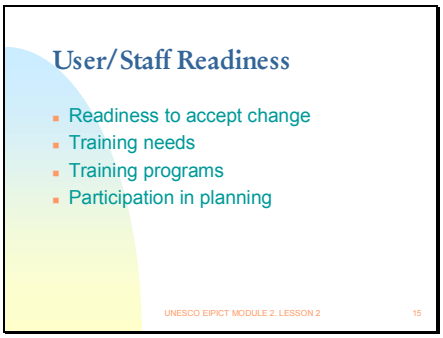
Slide 13



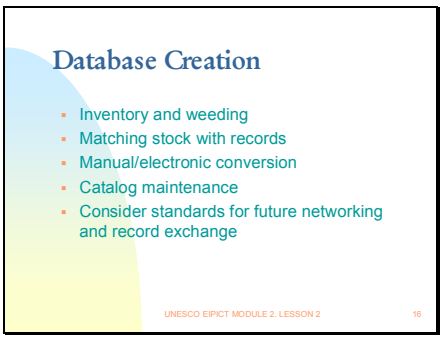

Slide 14



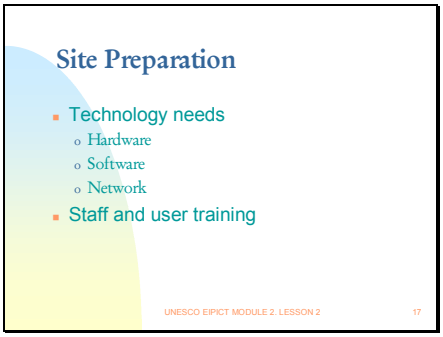

Slide 15



Slide 16

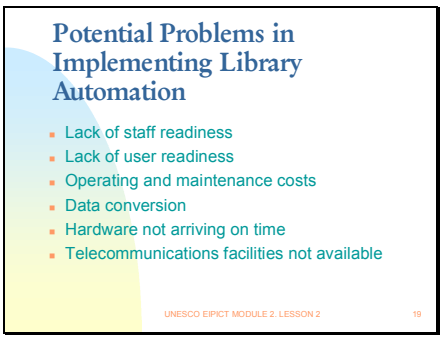



Slide 17

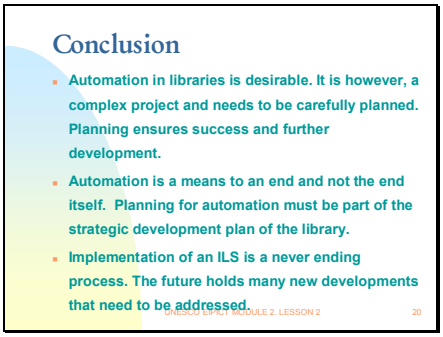



Slide 18

Slide 19




Slide 20




## End of Lesson 2 and Module 2

# Module 2
# An Introduction to Library Automation

# Student's Text

# Appendix

**Appendix 1: List of Activities**

**Appendix 2: Reading/Reference List**

**Appendix 3: Glossary**

# Appendix 1: List of Activities

**Lesson 1**

Module 2
Lesson 1

**Activity 2.1.1**

To learn more about the features of ILS visit the following sites:

- www.itcompany.com/inforetriever/sys.htm
- www.librarysupportstaff.com/4automate.html
- en.wikipedia.org/wiki/Integrated_library_system

Module 2
Lesson 1

**Activity 2.1.2**

For more information about the MARC standard and UNIMARC visit the following sites:

- http://lcweb.loc.gov/marc/marc.html
- http://www.ifla.org/VI/3/p1996-1/unimarc.htm

Module 2
Lesson 1

**Activity 2.1.3**

To know more about Z39.50 read the article "Z 39.50. Part 1 – An Overview" in Biblio Tech Review: http://www.biblio-tech.com/html/z39_50.html

Module 2
Lesson 1

**Activity 2.1.4**

View some OPACs on the Web by visiting homepages of university libraries and linking to their web catalogs. These pages may also be good sources of MARC records.

To view a home grown WebOPAC visit: http://rizal.lib.admu.edu.ph
You can also view a consolidated catalog for three libraries at this site as well as portions of the library catalog for the special collections.

To view a catalog running on an open source system go to:
http://ccfls.org/catalog/search.html

Module 2

**Activity 2.1.5**

The basic modules are cataloguing, OPAC and circulation. To find out about other modules go to:

Lesson 1

- AcqWeb's Guide to Automated Library Systems, Library Software, Hardware and Consulting Companies. http://acqweb.library.vanderbilt.edu/pubr/opac.html
- Integrated Library System Reports: Vendors information. http://www.ilsr.com/search2.cfm

Module 2
Lesson 1

**Activity 2.1.6**

To view a home-grown serials WebOPAC visit: http://rizal.lib.admu.edu.ph and look for the link to the WebOPAC.

Module 2
Lesson 1

**Activity 2.1.7**

Visit the following sites for descriptions of big and small systems.
http://www.librarysupportstaff.com/4automate.html
http://www.ilsr.com/search2.cfm

Module 2
Lesson 1

**Activity 2.1.8**

Visit the following sites for descriptions and examples of open source systems as well as of libraries using them.

- Koha: www.koha.org
- Oss4lib open source system for libraries. www.oss4lib.org
- To see an opac using open source. http://ccfls.org/catalog/search.html
- phpMyLibrary: http://www.phpmylibrary.org
- for a discussion go to Open Source Integrated Library Systems An Overview: http://www.anchil.org/users/eric/oss4ils.htm

For the library system WEBLIS which is based on CDS/ISIS access.
http://portal.unesco.org/ci/en/ev.php-URL_ID=16840&URL_DO=DO_TOPIC&URL_SECTION=201.html

Module 2
Lesson 1

**Activity 2.1.9**

- Visit the following sites for a discussion of the future of ILS. http://www.libraryjournal.com/article/CA302408.html
- Visit the following site for a discussion of some issues in sharing integrated library systems.

http://www.dpi.wi.gov/pld/sharing.html

**Lesson 2**

Module 2
Lesson 2

**Activity2.2.1**

Visit the following sites for sample plans.
http://dlis.dos.state.fl.us/bld/Library_Tech/Autoplan.htm
http://www.documentorsconsultants.com/txtplan%20for%20automation.htm
http://www.ilsr.com/leading.htm

Module 2
Lesson 2

**Activity2.2.2**

Visit the following sites for descriptions and evaluation of ILS.
http://www.ilsr.com/search2.cfm
http://acqweb.library.vanderbilt.edu/pubr/opac.html

Module 2
Lesson 2

**Activity 2.2.3**

Visit the following sites for sample RFPs.
http://www.ilsr.com/sample.htm
http://www.webdevelopersjournal.com/columns/writerfp.html

Module 2
Lesson 2

**Activity2.2.4**

Visit the following sites to view and evaluate some open source systems.
www.oss4lib.org/readings/oss4lib-getting-started.php
www.emilda.org/
www.manageability.org/blog/stuff/how-to-evaluate-open-source-library/viewlibrary.rider.edu/scholarly/ecorrado/il2004/
http://library.rider.edu/scholarly/ecorrado/il2004/ossfeatures.html

Module 2

**Activity 2.2.5**

Visit the web site http://www.greenstone.org. for a description of Greenstone.

Lesson 2

Visit http://open-ils.org
for info and demo of Evergreen

**End of Activities Module 2**

# Appendix 2: Reference/Reading List

Module 2


1. Cohn, J. M. & Kelsey, A. L. 1996. *Planning for Automation and Use of New Technology in Libraries*. http://web.simmons.edu/~chen/nit/NIT'96/96-065-Cohn.html
2. Harrassowitz. *Electronic Journals: A Selected Resource Guide*. http://www.harrassowitz.de/top_resources/ejresguide.html
3. IFLA. 1996. *Universal Bibliographic Control and International MARC Core Programme*. http://www.ifla.org/VI/3/p1996-1/unimarc.htm
4. Integrated Library System Reports. *Sample Request for Proposals (RFPs) and Request for Information (RFIs) for library automation projects*. http://www.ilsr.com/sample.htm
5. *Integrated Library System Reports: Vendors info*. http://www.ilsr.com/search2.cfm
6. Kirby, C. & Wagner, A. *The Ideal Procurement Process: The Vendor's Perspective*. http://www.ilsr.com/vendor.htm
7. Library of Congress. *MARC Standards*. http://lcweb.loc.gov/marc/marc.html
8. Library of Congress. *Z39.50 Gateway to Library Catalogs*. http://lcweb.loc.gov/z3950/gateway.html
9. Library of Congress. *Z39.50 Maintenance Agency Page*. http://www.loc.gov/z3950/agency/
10. McNamara, C. *Strategic Planning.* http://www.mapnp.org/library/plan_dec/str_plan/str_plan.htm
11. McNamara, C. *Basic Overview of Various Strategic Planning Models*. http://www.mapnp.org/library/plan_dec/str_plan/models.htm
12. Millard, M. *Tips and Hints on Library Automation and Automated Library Systems*. http://www.ilsr.com/hints.htm
13. National School Boards Foundation. *Education Leadership Toolkit*. *Planning: Creating a Vision.* http://www.nsba.org/sbot/toolkit/cav.html
13. *Planning and Evaluating Library Automation Systems*. http://dlis.dos.state.fl.us/bld/Library_Tech/Autoplan.htm
14. *Sample RFP*. Library HQ. http://www.libraryhq.com/rfp.doc
15. SUNY Library Automation Migration RFP. State University of New York. Integrated Library Management System. Request for Proposals. http://ublib.buffalo.edu/libraries/units/cts/ctsplus/sunyrfp.html
16. Swets & Zeitlinger Swetsnet . http://www.swetsnet.com
17. University of Arizona Library. *Vision & Mission Statements*. http://www.library.arizona.edu/library/teams/list/missvision.htm
18. University of Illinois Library. *Strategic Plan. FY2001-FY2003*. http://www.library.uiuc.edu/committe/strategicplanning/reports/jan00report.htm
19. University of Wisconsin Madison. *Proposal Writing: Internet Resources*. http://www.library.wisc.edu/libraries/Memorial/grants/proposal.htm
20. Wisconsin Department of Public Instruction. Public Library Department. *Library Technology Planning: An Outline of the Process*.

21. Z39.50. Part 1 - An Overview. *Biblio Tech Review*. http://www.biblio-tech.com/html/z39_50.html

**Other references are provided in the activities**

**End of Reference/Reading List Module 2**

Additional reference:

22. Lindquist, Mats G., "RFID in libraries - introduction to the issues." IFLA, Berlin 2003.
http://www.ifla.org/IV/ifla69/papers/161e-Lindquist.pdf

# Appendix 3: Glossary

Module 2

1. **Acquisition Section.** The section in the library that is concerned with selecting, ordering, receiving and paying for library materials.
2. **Automated library system (ALS).** An automated library system is software that has been developed to handle basic housekeeping functions of a library. The software may be focused on one library system only or may be capable of manipulating data from two or three modules to perform another basic function.
3. **Barcode number.** A representation of a number by means of a code, which uses vertical lines.
4. **Bibliographic database.** A collection of bibliographic records that are stored in a database for easy retrieval.
5. **Carpal tunnel syndrome.** An ailment characterized by painful wrists because of inflammation of the joints between the carpal bones. It is usually caused by repetitive action such as typing on a computer keyboard. It is one of the ailments known as repetitive strain injury.
6. **Cataloging.** The process of describing a book using conventions and standards such as AACR2 and the Library of Congress Classification Scheme and Subject Heading Lists. Other standards are available and may be in use in other countries.
7. **CDS/ISIS.** A powerful information storage and retrieval software developed by UNESCO. It is distributed free of charge to libraries in developing countries. The latest version of the software is Windows ISIS.
8. **Circulation section.** The section in the library that is in charge of lending books and other materials to users.
9. **Copy cataloging.** The process of copying catalog entries from other libraries and adapting them to one's own library. In an electronic environment, the transfer of records and importation into the library system is effected by the Z39.50 protocol.
10. **Data conversion.** The processes of converting data stored in catalog card into electronic format. It can also mean the processes of converting electronic records from one format to another.
11. **Database.** A collection of related files.
12. **Electronic catalogs.** Catalogs of books, serials, and other library materials that are online and could be access online. They are popularly known as OPACs.
13. **Electronic indexes.** They are similar to catalogs but the records are for articles from serial publications.
14. **Faculty number.** A borrower's number assigned to a faculty member. It is usually his/her employee number.
15. **Feasibility study.** A document that contains the results of a systems study, the proposed solutions and financial requirements to implement the project.
16. **Goals.** Long-term aims of an institution that are aligned with its mission.
17. **Home page.** The index or main page that accompanies a Web site.

18. **Indexing.** The process of describing an article and providing it with a link to the source for purposes of identifying articles and retrieving them.
19. **Information networking.** The interconnectivity of computers to share information and other resources.
20. **Information storage and retrieval software.** A program designed to store and retrieve information. An example is CDS/ISIS.
21. **In-house.** Library management or information storage and retrieval software that is developed by an institution using its own staff and other resources.
22. **Integrated library systems (ILS).** An automated library system that is capable of managing the operations of more than one basic library functions by sharing the files in the server to perform them. For example, data from the book catalog master file and the patron master file can be retrieved and used in the circulation module to perform the circulation function of the ILS.
23. **Interlibrary loan.** One of the functions of a library that is a member of a consortium or network, where materials are loaned to member libraries.
24. **Item number.** The number assigned to a library document. It may or may not be the same as the accession number or the bar code number.
25. **Library automation.** A generic term used to refer to the application of computers in libraries to automate operations.
26. **Library management system.** See ALS or ILS.
27. **Library networks.** The formal organization among libraries that have agreed to share resources. They may or may not be connected together electronically.
28. **Library software developers.** Programmers or groups that develop automation software for libraries.
29. **Library staff.** The non-professional personnel of a library.
30. **Library system.** Software for automating the functions of a library.
31. **Library user.** The patron, client or user of a library.
32. **Local area network.** An interconnected group of computers located inside a room or building.
33. **MARC records.** The Machine-Readable Cataloging (MARC) formats are standards for the representation of bibliographic and related information for books and other library materials in machine-readable form and their communication to and from other computers.
34. **Off-the shelf systems.** Ready made commercial ILS packages.
35. **OPAC.** Online public access catalog that is used to access and retrieve information about the holdings of a library. It may or may not contain full text and/ or multimedia and may or may not be connected to the Internet.
36. **Reference Section.** The section in the library in charge of assisting users in the conduct of their research. They may also take care of interlibrary loan requests and document delivery services.
37. **Request for proposal.** A request for proposal (RFP) is a formal request for a bid from suppliers of library systems. The RFP is a comprehensive document that provides the vendor with the outline, purpose, scope,

description, minimum requirements, etc, for the system.

38. **Security system.** The system of providing checks against theft of library materials. They are usually gates that have electromagnetic detectors and produce sounds when the materials passing through the magnetic field have not been properly checked out.
39. **Self check-in system.** The process of returning materials without the assistance of the library staff.
40. **Self-check out system.** The process of borrowing library materials without the assistance of the library staff.
41. **Serials management.** The function concerned with the monitoring of serials acquisitions.
42. **Software packages.** Programs which are available off-the-shelf.
43. **Strategic planning**. The process of solving problems in an organized and logical manner. It is usually not long term but top priority.
44. **Systems analysis and design.** The process of studying the system and designing solutions for it.
45. **Systems study.** Collection of data about the library's operations, facilities, collection, procedures, staff expertise, etc. In general, the assessment involves gathering information about user needs and wants and matching these with what the library can presently offer.
46. **Systems requirement study.** Specifications for the system based on the systems study. It is also called systems design.
47. **Technology plan.** A technology plan is the document that puts the vision, goals, and objectives in writing. It is an overall plan for all the technology components of a project. It includes the specifications for your system requirements, financial estimates, the action plan and the timetable for the project.
48. **Turnkey systems.** Turnkey means that the package is ready to use, data has been converted, and the hardware and network have been installed by the supplier.
49. **UNIMARC.** The common MARC format.
50. **Vision.** A vision is a dream. It is a vivid picture of what you would like your library to become in the near future. It is based on the mission of your library, the needs of your users and on the trends in library service. A vision provides direction and a philosophy for the library.
51. **WebOPAC.** The online public access catalog that is accessible via the Internet.
52. **Z39.50 standard.** The protocol observed in importing and exporting catalog records through the Internet.

## CONGRATULATIONS! YOU HAVE JUST FINISHED MODULE 2

This is also the end of Module 4 of the Training Programme

in HCMC April 2008.