
LIBRARY AUTOMATION MASTERCLASS (L.A.M)

FRONTEND & BACKEND ACTIVITIES

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Table of Contents

In this course of this session, participants will have in depth understanding of;

- **Library Automation Backend activities**
- **Organization of Information Resources for Library Automation.**
- **Backend Demonstration using Activeshelf ILS;**
 - Patron management
 - Circulation
 - Cataloguing with MARC21 (Machine Readable Cataloguing)
 - Data migration.

Library Automation Backend Activities

The primary objective of any library system is to collect, store, organize, retrieve and make available the information resources to the patrons. The backend helps librarians to carry out all these house keeping activities.

The backend refers to the part of a computer application or a program's code that allow it to operate and that interface cannot be accessed by a patron.

A backend application or program supports front-end user services, and interfaces with any required resources. The back-end application may interact directly with the front end or it may be called from an intermediate program that mediates front-end and back-end activities.

Library Automation Backend Activities

The Backend of a typical library automation systems are often written in a variety of programming languages, including Python, Ruby, PHP, and Java, among others.

The Open source is built by a community of developers, while the proprietary systems are developed by individuals and organizations. The source code for proprietary system is exclusive to the owners while the open source is open to external users.

Patron Management



Patrons are individuals who uses the resources and services of the library.

Libraries need to know their patrons, including the important data/details. A patron management module should enable you to add, modify or delete your library's patrons data.

Libraries can download and share patron data (which is useful if your library needs to make a report). Patrons can also be allowed to manage their own accounts and perform various activities like placing holds or paying library fees online.

Patron Management

Patron management in automation is an important part of LMS systems. Here in Nigeria a lot of academic institutions still operate their patron management manually which can be stressful for the librarians at the circulation especially during registration for new students.

Circulation



An automated circulation system in a library is a computer-based system that is used to manage the lending and returning of library materials.

Circulation is the most visible and familiar aspect of a librarian's work as the librarians get to interface with the patrons.

Circulation modules in Library management systems like Activeshelf helps to check items in and out, keep track of their location, and even notify patrons when items are due (or overdue!) by sending automatic emails or text messages.

Organization of Information Resources (Cataloguing)

The core of libraries is centered on selection, organization, access and retrieval of information resources

Any library that can't properly organize and create access to its resources whether online or offline is not meeting the goals of libraries. Organization of resources extends from the traditional system to digital systems.

The core of library resource organization is classification and cataloguing. In the traditional system we use the card catalogue and in the hybrid or electronic system we use Machine Readable Catalogue (MARC).

Brief History of MARC 21

Working with the Library of Congress, American computer scientist Henriette Avram developed MARC between 1965 and 1968, making it possible to create records that could be read by computers and shared between libraries

The Library of Congress serves as the official depository of United States publications and is a primary source of cataloging records for US and international publications. When the Library of Congress began to use computers in the 1960s, it devised the LC MARC format, a system of using brief numbers, letters, and symbols within the cataloging record itself to mark different types of information.

Brief History of MARC 21

The original LC MARC format evolved into MARC 21 and has become the standard used by most library computer programs.

It is published as MARC21 Format for Bibliographic Data.

MARC21 is the current standard built by the library of congress in the 1960s as a means of creating bibliographic description of information resources.

MACHINE READABLE CATALOGUING (MARC21)

The acronym “MARC” stands for ‘Machine Readable Cataloging’.

It’s a data indexing system that allows computers to store, exchange and manipulate cataloging/bibliographic data created by humans.

It provides a way to tell computers which piece of data represents the several bibliographic information pointing which piece is the title, author, publication date, physical description etc.

WHY MARC RECORD?

The information from a catalog card cannot simply be typed into a computer to produce an automated catalog. The computer needs a means of interpreting the information found on a cataloging record. The MARC record contains a guide to its data, or little "signposts" before each piece of bibliographic information.

The place provided for each of these pieces of bibliographic information (author, title, call number, publication information etc.) is called a "field".

WHY MARC RECORD?

However, to allow proper cataloging of books and other library items, the best file structure allows for records with an unlimited number of fields and unlimited field lengths. This flexibility is necessary because not all titles are the same length. For example, “The robe” , “Alexander and the terrible ,horrible, no good, very bad day”

Some books are part of a series, requiring a field for that information, while others have no series statement. And audiovisual items have much longer physical descriptions (5 filmstrips : sd., col. ; 35 mm. + teaching manual) than do most books (403 p. : ill. ; 22 cm.).

WHY ONE STANDARD?

You could devise your own method of organizing the bibliographic information, but you would be isolating your library, limiting its options, and creating much more work for yourself. Using the MARC standard prevents duplication of work and allows libraries to better share bibliographic resources.

Choosing to use MARC enables libraries to acquire cataloging data that is reliable. If a library were to develop a "home-grown" system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

WHY ONE STANDARD?

Using the MARC standard also enables libraries to make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format.

Systems are maintained and improved by the vendor so that libraries can benefit from the latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

MARC Anatomy

These are the parts of a MARC record.

- **Fields - Contains data**
- **Tags - Identify what is in the field**
- **Indicators - Tell computers how to work with a particular field**
- **Subfield - Subsections of fields**
- **Subfield Codes - Identify content of subfield**
- **Delimiter - Mark start of subfield. A delimiter tells the computer where the subfield starts**

Parts of a MARC record



Fields:

The field is a basic container of data in a MARC record. Each field has a specific kind of bibliographic data.

Tags:

Tags serve a shorthand that identifies what the data in the field is. For example, 245 is title information.

Parts of a MARC record

Subfield:

Subfields are what they sound like. They're smaller sections of fields.

Subfield codes:

Subfield codes tell a computer what kind of data is in the subfield.

For example, in a 245 field, subfield C is a statement of responsibility.

Computers can't tell whether a character is a subfield code or part of the data.

Delimiter:

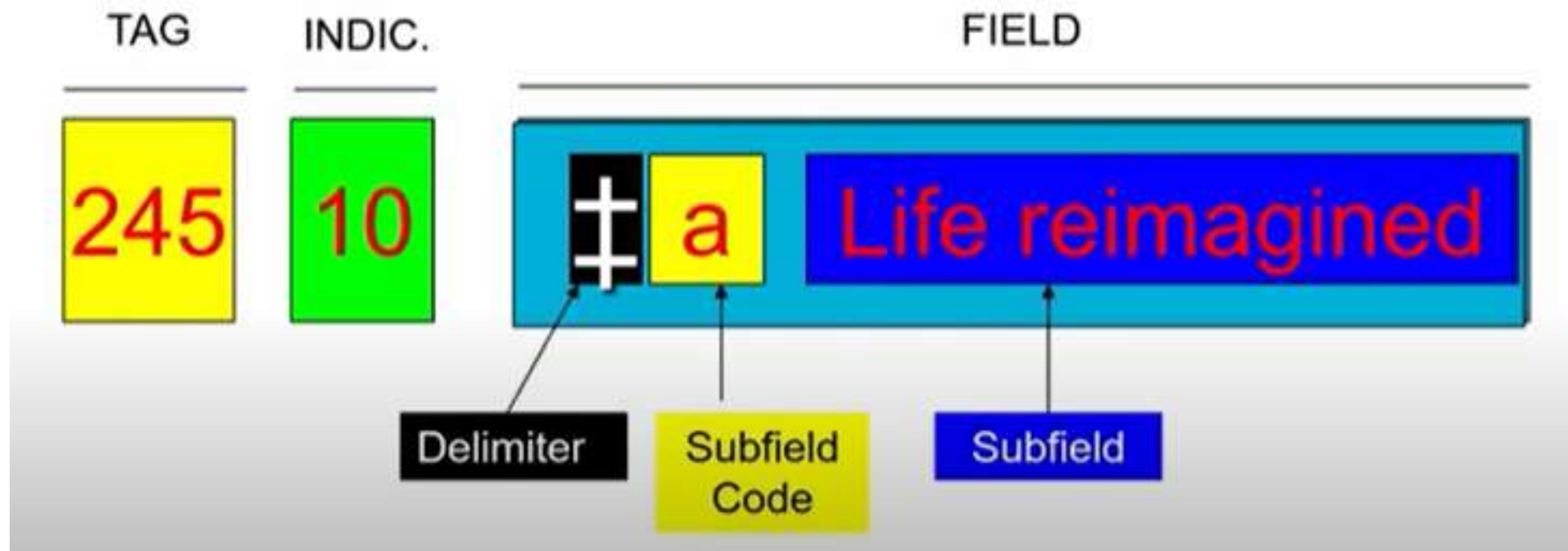
A delimiter tells the computer where the subfield starts. In this example, which is part of a title field, the tag is 245.

Parts of a MARC record

Indicators:

Indicators provide computers with information about how to treat the field. In the title field for example, there's a non-filing indicator. If we have an English title, "The History of Art," in a title browse display, we want to begin filing in the second word "history" rather than "the". So, we set a non-filing indicator to four to tell the computer to disregard "the" and the space following it. Indicators have different functions in different fields. Some fields use indicators, and some do not.

MARC ANATOMY CHART



Data migration and management

Data migration in library management system (LMS) is essentially the process of transferring your current core LMS information into a new LMS. This focuses on safely moving your bibliographic records, borrower records, patron records and other relevant data into another platform.

For Cataloguing records, MARC files can be exported and converted to a file format known as .mrk or .mrc. These files can be manipulated using MARCedit.



THANKS FOR
YOUR ATTENTION



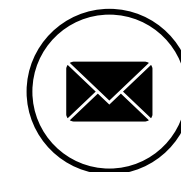
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