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ANALYSIS OF KAZAKHSTAN SCIENTIFIC LIBRARY SYSTEM CATALOGING WITH MARC21

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Abstract

This work's aim is to analyze comparisons of international formats for Kazakhstan Scientific Library System by giving the opportunity to get records from WorldCat. For detailed parts we disclose the importance of the difference of cataloging by hand and automatically. Our task is to show the algorithm of how to get the records and optimize librarians work with using the C# and python languages. In the creation of the system by LCC cataloging we define related factors, parameters and identifies.

Keywords: LC Classification System (Library of Congress), MARC (MAchine-Readable Cataloging record), NDIIPP (Library of Congress's National Digital Information Infrastructure and Preservation Program), ISBN (International Standard Book Number).

INTRODUCTION

LCC Classification

LC Classification System (Library of Congress) - first time used in 1897 for congressional use, is nowadays widely used by academic and research libraries worldwide. LC main class numbers are 21 letters of the alphabet and no I or O because they resemble the numerals 1 and 0; W, X, and Y are reserved for several subjects [1]. The Library of Congress is made up of members of the Global Information Society and participates in the Digital Libraries Project (part of the Group 7 Bibliotheca Universalis Project) with France, Canada, Japan, Italy, Germany and the United Kingdom [2].

In the majority of scientific libraries, digital library managing tasks should be found directly on the items in use. But electronic archive is so dependent, it is in normal case to be related in broader questions as well - and this is a strategic part for the library or well prepared team to take a managing position in the academic as a resource on all parameters of digital archive [3], including archiving, preserving personal digital materials. and e-book management.

NDIIPP - was created for the "development strategy the main collection, use and disclosure of significant digital content, especially information that is created only in digital form, for our current and new generations. NDIIPP maintains a list of cases and services designed to assist digital preservation[1] created by members of its global network of partners.

From all the other old formats, the Today, the MARC format has become the standard used in most library systems and computer programs. Nowadays the MARC format is used in the USA and Canada, UKMARC in the United Kingdom, interMARC in France, NORMARC in Norway and SAMARC in South Africa. [4] MARC standard also allows libraries to replace one system with another assurance that their data will remain compatible.

Aim and objectives of research

In this research work we will dissect the library system format advantages by comparing manually and automatically filled records and its time efficiency. Furthermore, one of the key aims is to give the current state for formats in Kazakhstan Library Systems. The main analysis for this research is to show the algorithm of solution. The objective of research is to analyze the advantages of usage of digital cataloging.

Background of Literature Review

The one of the answers for the Digital Library system is to understand and implement the MARC record fields. For clear understanding we have mandatory common and additional fields, where users can add to a list of record fields.

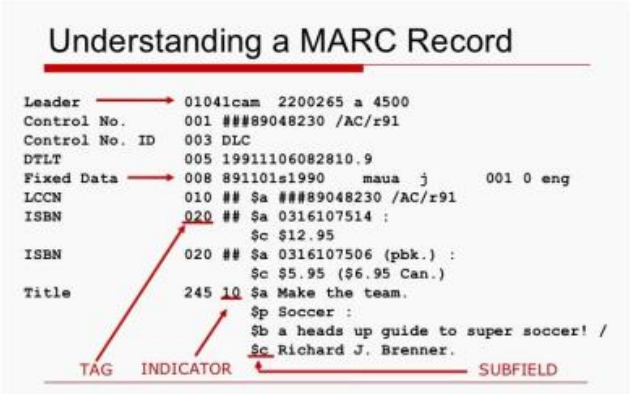

Figure 1. Detailed explanation of MARC Record Fields [4]

As shown in Figure 1, we can create the database tags, indicators and subfields. Tags should be constant numbers , such as 010, 050, 500 and etc. Indicators are additional for tags, like a 10, 11 and others. Subfields consist of numbers or letters, for example 01, $a or $c, etc. In the filling MARC Record we need to identify “Metadata”. The Data Standards/Metadata Advisory Group is responsible for [5]:

- collect data for activities according to standards,
- enable updated reports on data standardization activities,
- monitor the development of standard data guidance documentation,
- provide training and knowledge transfer,
- participate in government or industry standardization bodies to stay informed of all standardization activities,
- give the privilege of advising on the setting of data standards practices within the software and data lifecycle, and
- develop methods to ensure data quality in accordance with data standards.

MARC coding standards

The next parts prepared for coding tasks:

1. Character set - codes consist of basic Latin alphabetic characters and a dash (-). Brackets can be found in some older codes, but they have been avoided in newer codes. The hyphen is taken into account when determining the maximum code length, but is ignored when sorting and determining uniqueness.

2. Case - Codes usually consist of a combination of uppercase and lowercase letters, although they can consist of all uppercase or lowercase letters.The use of upper and lower case letters helps to improve the readability of codes. Sorting and uniqueness are not case sensitive.
3. Length - Codes are variable in length, but usually should not exceed ten characters. The dash (-), which is used in some codes, is included in the character count. Beginning in 1989, codes with more than ten characters were either shortened or obsolete in favor of a new (shorter) code assigned in accordance with a new policy agreed upon by various users of the MARC users.

Call Number

After coding MARC format fields, we know that metadata LCC Call Number can give accuracy of the data understandable or not. The LC Classification system in each library has its own Call Number with original cataloging. At the same time if Call Number is an address for users, then it should be clear to get a book from the library. For example, LCC used location algorithm is Z118.A365 2000.v1 There Z is main subject area, such a geography and etc, 118 - specific area, which gives information about sub themes, A365 - author notation and cutter number algorithms, 2000 - published year information, v1 -version one of that material [6].

METHODS AND MATERIALS

The important analysis was in format and metadata as explained before. In methods of our research we explain used optimization algorithms and how and in which language implement taking bibliographic records. Algorithms consist of three parts. First part is using the Search WorldCat platform and retrieving bibliographic records for cataloged items such as books, videos, journals, CDs and others.

The main requirement for getting records, organization should be OCLC partner and give the fields in their own system, that based on OCLC number, ISBN, ISSN, and other fields. Second part is implementation: we need C# coding in creation applications contains tags, fields and their explanations for librarians. In getting data we need to use parameters such as ISBN. The last part analyzes the time efficiency by getting records in python language, for example cataloging 26000 items of SDU library system by hand and automatically.

DATA AND RESULT

After identifying methods, the next task is showing used data and results. Data collection part is divided into two, first one is records and second part is related to first, it is a spent time for cataloging. The main part of getting records we will use ISBN or other identifiers. For

getting data for spent time we use a file, where librarians enter. In a result part we can give the solution of exporting our own data to help other librarians and show comparison of spent time.

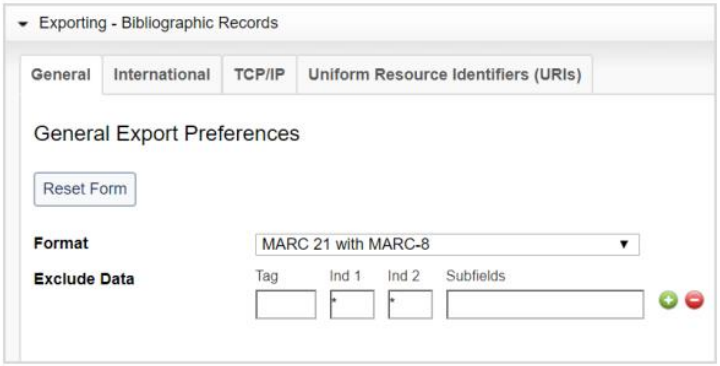

Figure 2: Exporting - Bibliographic Records accordion: General tab – Image [7]

As shown in Figure 2, we can send our completed data to international cataloging. At the same time take information from their database. For deep analize to fill spent time we need some experiments with librarians. For data we should get 26000 items and find optimization by more efficient ways.

DISCUSSION

From the analysis we should find the advantages of getting and exporting data that can help international librarians. The important question was finding differences in filled records between them. The main discussion questions are: Why do we need to use their records as instances of self original cataloging? Is it possible to use original cataloging, also save time? By comparing other systems as MegaPro [6], we can give the user-friendly platform to use MARC21 format cataloging with the ability to change records. If it is helpful to users to see more information about books, then where will they use it? For these questions we can give answers in conclusion of this work.

CONCLUSION

From the last visit to the MegaPro system that is used in some organizations of Kazakhstan, we found some difference in using MARC21. For example, they filled metadata for Call Number in their local names, for international students it is not understandable. That is why our analysis of creation's own system gives more detailed information about efficiency. In the future work, we can show detailed analysis with finished platforms, where catalyzed items from SDU Scientific Library system and spent time analysis with librarian’s help. Now we proved that library systems can get and use metadata from WorldCat by using ISBN in MARC format. After that, we can show how many items can be catalyzed automatically with WorldCat.

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