A simplified MARC database

Piet de Keyser
Belgium
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Introduction

The world standard in library cataloging still is MARC 21 in combination with the Resource Description and Access (RDA) rules, the successor of the AACR2 rules. The MARC standard, as described in its official webpages at the Library of Congress (http://loc.gov/marc), is rather complicated. It contains thousands of fields and subfields. Each field has two "indicators". For some fields these indicators may both be empty, for some only one is used, for others both are used. Their value can be complex, referring to other fields or to other values stored in subfields. In similar fields the logic of the indicators can be totally different, e.g.

- in field 245, the title field, the first indicator is used to tell the system whether the title is main entry or not and the second one to omit leading articles from the title in order to construct alphabetical title lists;
- in field 246, the field for the varying form of the title, the first indicator tells the system whether the content of 246 is a displayed note or not and whether it has to be retrievable or not and the second one to define the kind of varying title, e.g. cover title, parallel title etc.

Experienced catalogers working in national or university libraries are trained in all of this, but for many small libraries it is rather a kind of overkill.

Why does everyone swear by this complex system? The main reason lies in the fact that major providers of bibliographic records, Library of Congress and OCLC, offer their records for copy cataloging in MARC format. Another reason is that it will be easier to upload data for e.g. a union catalog if all participating libraries use the same format. So it seams like a very good reason to stick to it. And it is, but this doesn't mean that catalogers in small libraries must be agonized with the limitless complexity of the MARC format. It is possible to filter the incoming complex MARC records into a much less complex format and to upgrade simple bibliographic records to full MARC records using a conversion script.

In this document we present a simple bibliographic format for ABCD based upon the MARC standard, with a filter to copy catalog records which are retrieved through Z39.50 from major world catalogs, like the one of the Library of Congress, and an example of a conversion script that can convert records from this format into genuine MARC21 records.

1. Field definition table (FDT) of the database

The tags of the field definition table are based on the MARC field numbering. There are two good reasons for this:

1. The field tags contain a logic that is widely accepted in library cataloging.
2. Everyone who needs to work on the database, even without documentation, can check the meaning of the tags on the official Library of Congress website.

The database contains only a field definition table and doesn't have a worksheet. As a worksheet is only a subset of the database table and the database table is very simple, it is not necessary to create a worksheet with the same structure. The disadvantage of this is that some data will be omitted while using Z39.50 (see further).

Some characteristics of the structure:

- The fields contain no indicators. Most indicators can be automatically created by means of a conversion script when necessary.
- There is no 008 field, the "fixed-length" fields. This field contains a lot of data in standardized or form, e.g. the year of publication, whether the publication is illustrated or not, what kind of publication it is etc. This field too can be created if necessary.

- The FDT contains a few pick lists. The values from this pick lists are not stored in abbreviations, e.g. "aut" for "author". This makes thing easier if one wants to read the raw data (without formation).
- The order of the fields is not the numeric order of the tags: it follows a more ergonomic ordering, depending on the handling of the cataloged book.
- Most of the fields are tables, except where it is difficult to enter data in a table form. Title and subtitles are usually long and thus less suitable to be entered in a table.

This is a listing of the FDT:

```
F|3|Control number|0|0|||AI||20|||||||0||0|0|||
M5|5|Date and time last edit|0|0|||||20||||||||0||0|0|||
F|7|Document type|0|0|||S||30|P|doctype.tab||||book|0||0|0|||
F|20|ISBN|0|1|||X||50|||||||0||0|0|||
F|41|Language|0|1|||M||20|P|language.tab||||English|0||0|0|||
T|700|Author(s)|0|1|abe||TB|||||||||0||0|0|||
S||surname|0|0|a||X||50|||AU_|@autoridades.pft|||0||0|0|||
S||first name|0|0|b||X||30||||||||0||0|0|||
S||role|0|0|e||S||20|P|role.tab|||||0||0|0|||
T|710|Corporative author(s)|0|1|ae||TB||20|||||||0||0|0|||
S||name|0|0|a||X||50|||AI_|v710^a|v710^a||0||0|0|||
S||role|0|0|e||S||20|P|role.tab|||||0||0|0|||
T|245|Title|1|0|ab|||2|||||||||0||0|0|||
S||main title|0|0|a||X|2|||||||||0||0|0|||
S||subtitle(s)|0|0|b||X|2|||||||||0||0|0|||
T|246|Parallel title|0|0|ab|||1|||||||||0||0|0|||
S||main title|0|0|a||X|1|||||||||0||0|0|||
S||subtitle(s)|0|0|b||X|1|||||||||0||0|0|||
T|534|Original title|0|0|pt||TB|||||||||0||0|0|||
S||relation|0|0|p||S||20|P|relation.tab|||||0||0|0|||
S||title|0|0|t||X||70|||TI_|v245^a||0||0|0|||
F|250|Edition|0|0|||X||20|||||||0||0|0|||
T|264|Publisher|0|0|abc||TB|||||||||0||0|0|||
S||city|0|0|a||X||30|||||||0||0|0|||
S||publisher's name|0|0|b||X||30|||||||0||0|0|||
S||year|0|0|c||X||20|||||||0||0|0|||
T|300|Collation|0|0|abce||TB|||||||||0||0|0|||
S||pages or number of DVDs etc.|0|0|a||X||30|||||||0||0|0|||
S||specifications (e.g. illustrations)|0|0|b||X||30|||||||0||0|0|||
S||cm|0|0|c||X||20|||||||0||0|0|||
S||extra materials|0|0|e||S||20|P|extra.tab|||||0||0|0|||
T|490|Series|0|1|av||TB|||||||||0||0|0|||
S||name|0|0|a||X||100|||||||0||0|0|||
S||number|0|0|v||X||10|||||||0||0|0|||
F|500|Note(s)|0|1|||X|1|||||||||0||0|0|||
F|653|Keywords|0|1|||X|1||D||DF_|v653|v653||0||0|0|||
F|520|Abstract|0|1|||A|1|||||||||0||0|0|||
```

Although the field numbering is based upon the MARC21 field numbers there are some difference:

- The authors are all in v700. Normally MARC21 makes a distinction between the main author (in v100) and secondary authors (in v700). The rules behind this distinction may be difficult for non-professional catalogers. Here only v700 is used.
- The same goes for the corporate authors (v110 vs. v710).
- Here v246 is called "parallel title" although this is only one of eight possible values for v246. It is likely that small libraries will use v246 in the first place for parallel title and not for minor title variations.
- The famous RDA fields v336, v337, v338 are not used. Their purpose is to describe the nature of the document at hand. Here this is done in v7.
- From all the possible note fields in the 500 group only the basic one, i.e. v500 is used. If there is need for another specific field, it can be added.
- The keywords are in v653, which stands for uncontrolled index term. Of course, any other specific subject field can be used.

To this structure group headings can be added, although clicking them open while entering data may slow data entry slower.

In a small library that has only one or two copies of each book it may be a good idea to store the information of the copies in a one or a few fields in the bibliographic database, e.g. one for the call number and one for the barcode. Loans then can be done using the ABCD option "without the copies database".

2. The display formats (PFTs)

A basic display format for your database can look like this:

Title	**Library information systems**
Author(s)	Joseph R. Matthews; Carson Block
Publisher	Santa Barbara, California : Libraries Unlimited, [2020]
Edition	Second edition.
Description	book : xxiv, 321 pages : illustrations , 26 cm
Series	Library and information science text series
ISBN	9781440851940
Keywords	Libraries--Automation.; Library information networks.; Integrated library systems (Computer systems); Information storage and retrieval systems.; Information technology.

"Written by a renowned expert on library information systems, this is an essential management guide for administrators, librarians, and other staff who are responsible for implementing and maintaining information technology"--

The corresponding PFT is:

```
'<table width=100% border=0>'

if p(v245) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Title</b></td><td><font face=arial
size=2><b>',v245^a,'</b>'," : "v245^b,'</td></tr>', fi/
if p(v246) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Alternative title</b></td><td><font face=arial
size=2>',v246^a," : "v246^b,'</td></tr>',
 fi/

if p(v700) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Author(s)</b></td><td><font face=arial size=2>',(
v700^b| |v700^a,| (|v700^f|) |, if iocc<nocc(v700) then '; ' fi,),,'</td></tr>',
fi/

if p(v710) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Author(s)</b></td><td><font face=arial size=2>',
v710^a,| (|v710^f|) |,'</td></tr>' fi/

if p(v264) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Publisher</b></td><td><font face=arial size=2>',v264^a," :
"v264^b,
", "v264^c, '</td></tr>', fi/

if p(v250) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Edition</b></td><td><font face=arial
size=2>',v250,'</td></tr>', fi/
if p(v300) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Description</b></td><td><font face=arial size=2>',v7" :
",v300^a," : "v300^b,", "v300^c," + "v300^e,'</td></tr>', fi/

if p(v490) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Series</b></td><td><font face=arial size=2>',
v490^a," ; "v490^v,'</td></tr>', fi/

if p(v20) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>ISBN</b></td><td><font face=arial size=2>',v20,'</td></tr>',
fi/,
```

```
if p(v500) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Notes</b></td><td><font face=arial
size=2>',(v500+|<br>|),'</td></tr>', fi/

if p(v534) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>',v534^p,'</b></td><td><font face=arial
size=2>',v534^t,'</td></tr>', fi/


if p(v653) then '<tr><td width="10%" valign="top"><font face=arial size=2
color="green"><b>Keywords</b></td><td><font face=arial size=2>',
(v653, if iocc<nocc(v653) then '; ' fi),

'</td></tr>', fi/


'</table>',

"<font face=arial size=2>"v520
```

Of course, you can have more than one PFT, and you can also add the PFTs for your IAH opac in the list of the display formats (= formatos.dat in the PFT folder) so that you can check how the data would look in the opac.

If you enter copies information within the bibliographic record itself, you would need a few extra lines of code in order to display that information. You probably would need a REF to the loans database too if you want to display loan information in that PFT too.

3. Display formats using FRBR elements in IAH

Normally you use two display formats in IAH, a short one and a detailed one. The short one can be very simple, e.g.

Library information systems / Matthews, Joseph R.; Block, Carson
Santa Barbara, California : Libraries Unlimited, ([2020])
xxiv, 321 pages : illustrations ; 26 cm

The title offers a link wit which the user can retrieve more information. This will display the data in the detailed format:

Title	Library information systems
Author(s)	Joseph R. Matthews (author); Carson Block (author)
Publisher	Santa Barbara, California : Libraries Unlimited, [2020]
Edition	Second edition.
Description	book : xxiv, 321 pages : illustrations , 26 cm
Series	Library and information science text series
ISBN	9781440851940

"Written by a renowned expert on library information systems, this is an essential management guide for administrators, librarians, and other staff who are responsible for implementing and maintaining information technology"--

In fact the detailed format offers more hyperlinks: each time more publications of the same author, or published by the same publisher etc are in the catalog, the data are displayed as a link. In the following example the record contains links for the authors and the publisher:

Title	Fundamentals of investing
Author(s)	Lawrence J. Gitman (author); Michael D. Joehnk (author)
Publisher	Boston : Pearson Education, [2017]
Edition	Thirteenth Edition.
Description	book : xxx, 625 pages : color illustrations , 26 cm
ISBN	9780134083308

It makes sense to offer these links for authors, publishers, series, keywords (when displayed, which is not the case in our example).

How does this work? An example: the PFT checks whether the index contains more than one posting for the publisher. Is this is the case, the name of the publisher becomes a link, if not, it is displayed without link:

```
if p(v264) then '<tr><td width="20%" valign="top"><font face=arial size=2
color="green"><b>Publisher</b></td><td><font face=arial size=2>', v264^a," :
"d264^b,

if npost('PU_'v264^b)>1 then
'<a target="_blank"
href="/cgi-bin/wxis.exe/iah/scripts/?
IsisScript=iah.xis&lang=en&base=CATALOG&nextAction=lnk&exprSearch=',s(mpu,v264^b
,mpl),'&indexSearch=PU">',v264^b,

else v264^b, fi,

'</a>',

if p(v264^c) then ", "v264^c else ', [no year]' fi,'</td></tr>', fi/
```

Now consider this example:

Title	De taal van het lichaam
Author(s)	Julius Fast (author); Jan Frits Kliphuis (translator)
Publisher	Amsterdam : Wetenschappelijke uitgeverij, 1980
Edition	13e druk
Description	book : 160 pages
ISBN	9062877257
translation of	Body language

The catalog contains a description of this Dutch translation of an English book ("Body language") and also of the original English version. As a consequence the index contains twice the name Julius Fast, but only once the name Frits Kliphuis, the translator of the Dutch version. If doesn't make much sense to offer the name Fritds Kliphuis as a link for retrieving more titles of the same translator when it is only once in the database. The coding is pretty much the same as for the publisher, except that the author fields is repeatable, which makes it more complex. The coding in the PFT now is:

```
if p(v700) then '<tr><td width="20%" valign="top"><font face=arial size=2
color="green"><b>Author(s)</b></td><td><font face=arial size=2>',fi,

(if npost('AU_'v700^a,|, |v700^b)>1  then


'<a target="_blank"
href="/cgi-bin/wxis.exe/iah/scripts/?
IsisScript=iah.xis&lang=en&base=CATALOG&nextAction=lnk&exprSearch=',s(mpu,v700^a
|, |v700^b,mpl),'&indexSearch=AU">',v700^b| |v700^a,| (|v700^e|)|,
'</a>', if iocc<nocc(v700) then '; ' fi/,
else v700^b| |v700^a,| (|v700^e|)|, if iocc<nocc(v700) then '; ' fi, fi),

'</td></tr>'
```

As it is a repeatable field, for each occurrence must be checked how many postings the index contains. The statement

```
if iocc<nocc(v700) then '; ' fi
```

is needed in order to put a semicolon after each author, except after the last one. Normally this can be done with a statement like `v700+|;|`, but due to the complexity of the whole statement for v700 this will not work. `if iocc<nocc(v700) then '; ' fi` now compares the number of the occurrence to the total number of occurrences in the field.

The IAH interface is not able to cluster publications. Many catalogs show only one version with a link to retrieve the other version. In this example from WordCat two links will retrieve other version of the publication:

One of the most important fields to cluster different versions is of course v534, the original version note. In the example of "Body language" translated into the Dutch version "De taal van het lichaam", the following will occur:

- If you search for "Body language" you will get both the original and the translation.
- If you search for "De taal van het lichaam" you will get the Dutch version with a link on the title of the original version, and if you click that link you will get both versions, English and Dutch, again, and if there are more translations in the catalog, e.g. a Spanish and a French one, you will get all these versions too, as well as any adaptation etc.

If a description of a translation is in the catalog, but not the original version, the record will still contain:

```
Translation of: Body language
```

but now "Body language" will not be a link. This is the result of the following command in the PFT:

```
if p(v534)  then '<tr><td width="20%" valign="top"><font face=arial size=2
color="green"><b>',v534^p,'</b></td><td><font face=arial size=2>', fi/,
if npost('TI_'v534^t)>1 then
'<a target="_blank"
href="/cgi-bin/wxis.exe/iah/scripts/?
IsisScript=iah.xis&lang=en&base=CATALOG&nextAction=lnk&exprSearch=',s(mpu,v534^t
,mpl),'&indexSearch=TI">',v534^t,'</a>',
else v534^t,

'</td></tr>', fi/
```

These lines should be seen together with the following line in het FST:

```
534 0 "TI_"v534^t
```

As a consequence of all, this the link will only appear if the index contains the title more than once.

4. The Field Select Table (FST)

```
3 0  "CN_"v3
7 0 (|DT_|v7|%|)
20 0 (|IS_|v20|%|)
41 0 (|LA_|v41|%|)
852 0 (|PN_|v852|%|)
```

```
900 0 (|BA_|v900|%|)
700 0 (|AU_|v700^a|, |v700^b|%|)
710 0 (|AI_|v710^a|%|)
243 4 mpu,(v245^a/)/(v245^b/)/(v246^a/)/(v246^b/)
244 8 mpu,'|TW_|',(v245^a|%|/)/(v245^b|%|/)/(v246^a|%|/)/(v246^b|%|/)
245 0 "TI_"v245^a
246 0 "TI_"v246^a
534 0 "TI_"v534^t
264 0 (|PU_|v264^b|%|)
490 0 (|SE_|v490^a|%|)
500 4 (|NT_|v500|%|)
650 0 (|KW_|v650|%|)
653 0 (|KW_|v650|%|)
520 4 (|AB_|v520|%|)
998 8 mpu,'|BI_|'(v100^a|%|/)
998 8 mpu,'|BI_|'(v600^a|%|/)
998 8 mpu,'|BI_|'(v700^a|%|/)
998 8 mpu,'|BI_|'(v610^a|%|/)
998 8 mpu,'|BI_|'(v710^a|%|/)
110 0 mpu,(v110^a|%|/)/(v610^a|%|/)/(v710^a|%|/)/
110 4 mpu,(v110^a|%|/)/(v610^a|%|/)(v710^a|%|/)
998 0 mpu,'|BI_|'(v111^a|%|/)
998 0 mpu,'|BI_|'(v611^a|%|/)
998 0 mpu,'|BI_|'(v711^a|%|/)
998 8 mpu,'/BI_/' (v651*4|%|/),
998 8 mpu,'/BI_/' (v490^a|%|/),
245 8 mpu,'|BI_|',(v245^a|%|/)/(v245^b|%|/)/(v246^a|%|/)/(v246^b|%|/) /
(v534^t|%|/)
```

5. Example of data entry

Data entry can be like in the following this example:

| 3 | Control number | 1 | Assign help edit help file |

| 5 | Date and time last edit | 202007162217.44 |

| 7 | Document type | Book |

| 20 | ISBN | 9780815370345 |

| 41 | Language | English / Spanish / French / German / Italian |

700 Author(s)

surname	first name	role
erase Houston	Brant	author

Add | Duplicate last

710 Corporative author(s)

name	role
erase	

Add | Duplicate last

| 245 | Title | ^aData for journalists ^ba practical guide for computer-assisted reporting |

| 246 | Parallel title | |

(top half of the screen)

| 250 | Edition | Fifth edition. |

264 Publisher

city	publisher's name	year
erase New York	Routledge/Tailor and Francis Group	2019

300 Collation

pages or number of DVDs etc.	specifications (e.g. illustrations)	cm	extra materials
erase xix, 231 pages	illustrations	24 cm	

490 Series

name	number
erase	

Add | Duplicate last

| 500 | Note(s) | |

| 653 | Keywords | |

520 Abstract

| B I S I_x | Stijl | Opmaak | ? | Broncode |

"This straightforward and effective how-to guide provides the basics for any reporter or journalism student beginning to use data for news stories. It has step-

(bottom half of the screen)

6. The Z39.50 filter

It is very important to profit as much as possible from copy cataloging, because:

- it speeds up the cataloging;
- the quality of the copied records is high

Records from Library of Congress and other sources normally used for copy cataloging by means of Z39.50 come in standard MARC21 format, including indicators etc. These records must be adapted to our database structure. This can be done by means the following conversion table:

```
20:(replace(v20^a,':','')/)

700:if p(v100) then "^a"d100, replace(replace(v100^a,', ','^b'),',',''),"^e"v100^e, fi,,
(if p(v700) then '^a' replace(replace(v700^a,', ','^b'),',',''),|^e|v700^e fi/),

710:if p(v710) then "^a"v710^a fi/,

245:"^a"d245, replace(replace(v245^a,':',''),'/',''), "^b"d245^b, replace(v245^b,'/','')

250:v250^a

264:if  p(v260)  then  "^a"d260,  replace(replace(v260^a,':',''),';',''),  "^b"d260,
replace(v260^b,',',''), "^c"d260^c,replace(replace(v260^c,'.',''),'c','') fi, if p(v264)
then  "^a"d264,  replace(v264^a,':',''),  "^b"d264,  replace(v264^b,',',''),  "^c"d264,
replace(replace(v264^c,'.',''),'c','') fi,

300:if  p(v300)  then  "^a"d300,  replace(replace(v300^a,';',''),':',''),  "^b"d300,
replace(v300^b,';',''), "^c"d300^c, replace(v300^c,'.',''), fi

490:if p(v440) then "^a"d440 replace(v440^a,';','^v'), "^v"v440^b fi, if p(v490) then
"^a"d490, replace(v490^a,';','^v'), "^v"v490^v fi

520:v520^a
534:"^p"v534, "^t"v534^t
```

Some explanations:
- As we are not using v100 it is relocated to v700.
- We are using v264 for the editor, not v260, which was used before RDA. Here the v260, probably from old records is relocated to v264.
- The same goes for v440, which is no longer used as the field tag for the series; it now should be v490.
- We only address the subfields and loose the indicators while importing the data.
- As we are using picklists for the role of the author, the role in v100^e, v700^e and v710^e will not be imported.

Not all fields are imported and you can add more fields if necessary. If you are following the Library of Congress subject headings you could add e.g.

```
653:(if v650*1.1='0' then replace(v650*4,'^x','--') fi/)
```

As this line is rather complicated, it deserves some explanation. Consider this example: the book "Pastime lost : the humble, original, and now completely forgotten game of English baseball" by David Block (2019) gets the following subject headings in the Library of Congress catalog:

LC Subjects   Baseball--England--History.
                     England--Social life and customs--18th century.
                     England--Social life and customs--19th century.

Other Subjects   SPORTS & RECREATION / Baseball / History.
                     HISTORY / Europe / Great Britain.

When we look at the MARC21 display in the LC catalog we see the following:

```
650_0 |a Baseball |x England |x History.
651_0 |a England |x Social life and customs |y 18th century.
651_0 |a England |x Social life and customs |y 19th century.
```

```
650_7 |a SPORTS & RECREATION / Baseball / History. |2 bisacsh
650_7 |a HISTORY / Europe / Great Britain. |2 bisacsh
```

Here we see that we have three topical terms (v650), of which only the first one is a LCSH (the other two are BISAC subject headings) and that we have two geographical subject terms. The above line from the import filter only takes the topical term, which can be recognized by the value 0 in the second indicator, hence the statement

```
if v650*1.1='0' then
```

The subfields are replaced by --'. You could leave the subfields as they are, but then remember that
   1. normally ABCD cannot handle repeated subfields
   2. then you should also enter your subject headings into subfields

Remember also that the conversion could be more complex as v650 might have the following subfields:

   ^v - Form subdivision (R)
   ^x - General subdivision (R)
   ^y - Chronological subdivision (R)
   ^z - Geographic subdivision (R)

If you want to import v651 too, the following line can do the conversion:

```
653:(if v651*1.1='0' then replace(replace(v651*4,'^x','--'),'^y','--') fi/)
```

The result for v653 in our database now is:

```
Baseball--England--History.
England--Social life and customs--18th century.
England--Social life and customs--19th century.
```

Here also the matter can be more complex because v651 has more subfields. Some serious testing is recommended in order to get satisfying results.

In some countries subdivided keywords use semicolon instead of - - , e.g.

```
Baseball ; England ; history
```

If this, or similar is the case, you should take care of it in the conversion specifications too.

7. Record validation

Record validation can be added if necessary. Validations are stored into the file `catalog.val` in de def folder. This file could contains lines like this one:

```
245:if a(v245) then '<b><font size=3 color=red>Field 245: Title is
missing</font></b>' fi$$|$$true
###
```

This means that a fatal error will pop-up when the title is missing. You can make all kind of variations to this, e.g. a warning that there is no author or a fatal error that the record doesn't contain any keywords etc.

You can also add data if they are missing, e.g. if the publisher is missing you could add:

```
264:if a(v264^a) then ' ^a[Place of publication not identified]' fi,if a(v264^b)
then '^b[publisher not identified]' fi,if a(v264^c) then '^c[date of publication
not identified]' fi$$|$$
###
:
###
```

This means that these values will be added to the record if the publisher field (v246) is missing. It is stored in `catalog.end`.

8. The IAH OPAC

The IAH DEF file has the normal specifications. It uses the following prefixes from the index:

> words (the basic index) → BI_
> title words → TW_
> titles → TI_
> abstract words → AB_
> authors → AU_
> institutional authors → AI_
> keywords → KW_

You can make any variation you like, but make sure they correspond with the prefixes in the FST.

8. Possible extensions

Although all of this could be enough to build a simple library catalog, some extensions could be added:

- You can connect a thesaurus to v653 in order to choose your keywords from it.
- If you are not adding copies and loanobjects as a base for loans, you can add a field with the copies information and use the option "loans without copies".
- You can add a list or a database with controlled name for authors.
- While entering the author names you can open the list of authors that were already entered in the database and choose from it. This may be important in view of FRBR because it is important to enter the name of the author in exactly the same if you want to click on it in the OPAC in order to list all the author's publications. There may be another way to achieve the same effect. You can look-up the name of the author in the Library of Congress authority files, where that name can be found in a standardized form. The database contains another Z39.50 specification for LC authority files, with these specifications:

```
URL Server: z39.50.loc.gov
Port:       7090
Database name:   NAF
```

The database also contains a Z39.50 conversion file that extracts the name from the displayed LC authorities and enters them into to right subfields. This file, named "Authors" contains the following statement:

```
700:if p(v100) then "^a"d100, replace(replace(v100^a,',
','^b'),',',''),"^e"v100^e, fi,
```

If you want to enter the name for LC authorities you should save the record with the field 700 empty and then complete it by choosing Z39.50. You can also use the Z39.50 facility just to check the LC authorities file while entering manually. In the case when you are entering data you cannot extract data from Z39.50 at the same time.

9. Conversion to MARC21 (RDA)

If necessary the database can be converted to MARC21, using RDA. This could be the case when data of more then one library are merged into a union catalog. The next conversion specifications can generate the records of the database into MARC format. In needed, additions can be programmed, e.g. for v245^c in case this is wanted.

The proc script is the following:

```
'd*'
```

```
'a3005~n~',
'a3006~a~',
'a3007~m~',
'a3017~5~',
'a3018~i~',

"<3>"v3"</3>"
"<5>"v5"</5>"
'<8>', mid(date,3,6),
 's',v264^c,'          ',
if p(v300^b) then 'a' fi,
'                  ',

select v41
          case 'English':'<41>eng</41>'
          case 'Spanish':'<41>spa</41>'
          case 'French':'<41>fre</41>'
          case 'German':'<41>ger</41>'
          case 'Italian':'<41>ita</41>'
          case 'Dutch':'<41>dut</41>'
      endsel,
' u',
'</8>',

(|<20>  ^a|v20|</20>|/)



      select v41
          case 'English':'<41>  ^aeng</41>'
          case 'Spanish':'<41>  ^aspa</41>'
          case 'French':'<41>  ^afre</41>'
          case 'German':'<41>  ^ager</41>'
          case 'Italian':'<41>  ^aita</41>'
          case 'Dutch':'<41>  ^adut</41>'
      endsel,

'<40>  ^erda</40>',

if nocc(v700)<4 then
      if v700^e[1]:'author' then

      '<100>1 ', |^a|v700^a[1],|, |v700^b[1],|^e|v700^e[1],'</100>'
      '<245>1 ', v245,'</245>'
      "<700>1 "v700[2]"</700>"
      "<700>1 "v700[3]"</700>"
      else
      '<245>0 ', v245,'</245>'
      ('<700>',|^a|v700^a,|, |v700^b,|^e|v700^e,'</700>',/)
      fi,
fi,
"<250>  ^a"v250"</250>"
"<264> 1"v264"</264>"
"<300>"v300"</300>"
'<336>  ^atext^2rdacontent</336>'
'<337>  ^aunmediated^2rdamedia</337>'
'<338>  ^avolume^2rdacarrier</338>'
"<490>1"v490"</490>"
(|<500>  ^a|v500|</500>|/)
(|<520>3  ^a|v520|</520>|/)
(|<653>00^a|v653|</653>|/)
```

Use this command to generate a new database in MARC format:

```
mx catalog proc=@marc.prc create=newdb now -all
```

Although the records created by this script are not the best MARC21 records, they are acceptable as MARC21 records, because the

1. follow the MARC numbering of fields and subfields
2. they contain the necessary indicators
3. the contain a MARC leader
4. the have the famous 008 field

Many important libraries and library networks produce the same kind of MARC21 record.

These MARC21 records still are a ISIS database, but it can be exported into an iso file, which can be read by most programs that process MARC files.

10. How to go on from here?

Take these steps:

1. Create your own database, containing only basic elements, e.g. v1 etc.
2. Copy the relevant parts of this document into your files, e.g. the coding of the FDT into you xxx.FDT.
3. Test the database by entering manually some records and by downloading some from e.g. Library of Congress.
4. Do the necessary adaptations and test again.