Session: Using Connexion macros to automate workflows | Connexion update

OCLC Cataloging Community Meeting

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Introduction

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Beginner's Luck with Macros

Or, How I learned to stop worrying and love the OML

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WESTERN WASHINGTON UNIVERSITY
MAKE WAVES.

David Whitehair
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Connexion update

David Whitehair

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Beginner's Luck with Macros

Or, How I learned to stop worrying and love the OML

Casey Mullin

Western Washington University

First, disclaimers

- I am NOT a Connexion macro expert

- I am NOT here to teach you how to write Connexion macros

- I AM here to demonstrate how (relatively) easy it is to learn the basics of OML and write one's own macros
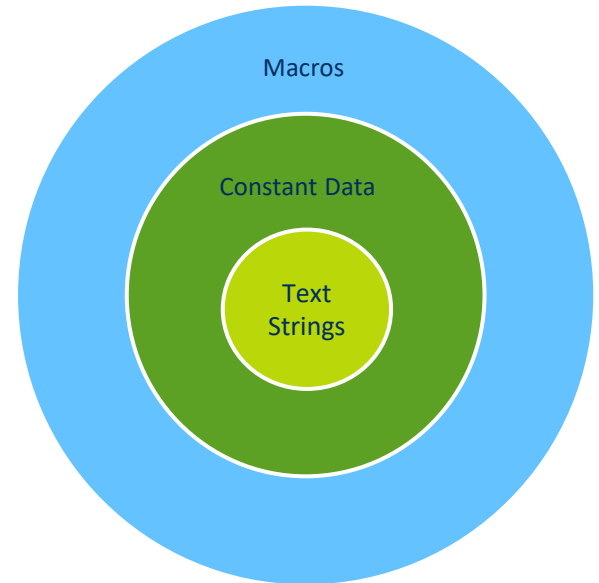
First, disclaimers

- "Baby's first macro." My macros:
  - Are first drafts
  - Work well enough to suit my day-to-day needs (i.e., without crashing Connexion)
  - Could definitely use expanding/refining
- I am NOT here to steal the thunder of other great tools like
  - MarcEdit
  - OpenRefine
  - Alma Normalization Rules

Productivity tools in Connexion

- **Text Strings**: best for single-field use, **static** output

- **Constant Data**: best for multi-field use, **static** output

- **Macros**: best for single- or multi-field use, **variable** input/output

All of the above can be assigned to hotkeys and/or user tools

Macros

Constant Data

Text Strings

Could a new macro help me?

1. Are you finding yourself performing a certain task repeatedly?

2. Does the task involve copying text from one field and adapting it for another field? (i.e., a text string or constant data won't do the trick)

3. Does another macro already exist that performs a similar type of action? (i.e., a proof of concept)

If you answered "yes" to these 3 questions (or even just the first 2), then **YES**

My crash course in OML

1. Studied Joel Hahn's tutorial "OML for the Complete Beginner"
   - http://www.hahnlibrary.net/libraries/oml/lessons/index.html
   - OML = "OCLC Macro Language"

2. Familiarized myself with full array of OML possibilities
   - https://help.oclc.org/@api/deki/files/5158/connexion-client-macros.pdf?revision=2
   - TL;DR: If a human can do it, a macro can be programmed to do it

3. Studied source code of macros that do something similar; reverse engineer
   - Sources: macros already installed in Connexion; Github

4. Gave it a go and wrote some code!

5. Asked Joel Hahn for help, feedback and troubleshooting
   - Queried the Facebook TCMMF group; experts are out there to help
   - OCLC Community and Metadata Community (within Community Center)?

6. Rinse and repeat

OML for the Complete Beginner

by Joel Hahn
Sponsored and endorsed by OCLC Online Computer Library Center, Inc.

If you're intimidated by the thought of editing or even (gasp!) writing your own macros for use with OCLC's Connexion client software, here's one place to start to pick up some of the essentials of programming with the OCLC Macro Language (OML). Writing your own macros can be quite rewarding and even dare I say--fun once you get a handle on a few basic concepts and commands.

(Disclaimer/note: For the purposes of teaching the rudiments, I may have left out some details that don't impact much on the concept at hand but might be very important for intermediate or advanced programming. You have to learn to add before you can learn that repeated adding is the same as multiplying.)

Lesson #1: Beginning basics
Lesson #2: Variables
Lesson #3: Variables, continued
Lesson #4: String manipulation
Lesson #5: Commands
Lesson #6: Commands, continued
Lesson #7: Program flow control
Lesson #8: Loops
Lesson #9: Subroutines and functions
Lesson #10: Arrays
Lesson #11: Error trapping & handling
Lesson #12: Dialog boxes

Lesson #12 is quite long in comparison to other lessons. You may wish to try it in smaller doses:

    Lesson #12, part 1
    Lesson #12, part 2
    Lesson #12, part 3

Return to the OML page.

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OCLC Connexion Client Guides

Basics: Use Macros

Last updated: June 2016

OCLC

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Macro #1 – Generate 046(s) from 045

- **Problem**: (new!) <u>SSFV Chronological Best Practices</u> recommend use of 046 to encode creation dates of works. Older score and sound recording bibs use 045 for this purpose (and the syntax is different)
  - Depending on nature of the resource, different 046 subfields are indicated
- **Solution**: take existing 045 $b subfields and map them to 046 $k/$l/$o/$p
  - Choice of subfield(s) depends on 045 1st indicator and record format
  - Example: 045 2_ $b d1850 $b d1855 (in a SR record) begets 046 __ $o 1850 $p 1855 $2 edtf

Macro #1 – Generate 046(s) from 045

```
If sRecType = "c" Then
    Call Score
    ElseIf sRecType = "d" Then
    Call Score
    ElseIf sRecType = "j" Then
    Call SR
    ElseIf sRecType = "i" Then
    Call SR
    Else
        MsgBox "To use this macro, start with a
score or sound    recording record."
    End If
```

Macro #1 – Generate 046(s) from 045

Sub Score

Comment

'Tests for presence of 045 and calls specific subroutine based on 1st indicator value

```
bool = CS.GetField("045", 1, sField)
If bool = TRUE Then
    If Mid(sField, 4, 1) = "1" Then
        Call SingleDateScore
    ElseIf Mid(sField, 4, 1) = "2" Then
        Call RangeDatesScore
    Else
        Call SingleDateScore
    End If
End If

End Sub
```

Looks at 1st indicator position

Sub SR

'Tests for presence of 045 and calls specific subroutine based on 1st indicator value

```
bool = CS.GetField("045", 1, sField)
If bool = TRUE Then
    If Mid(sField, 4, 1) = "1" Then
        Call SingleDateSR
    ElseIf Mid(sField, 4, 1) = "2" Then
        Call RangeDatesSR
    Else
        Call SingleDateSR
    End If
End If

End Sub
```

Macro #1 – Generate 046(s) from 045

Sub SingleDateScore
'Really, one single date, or a string of up to 6 single dates. Defaults to generating $k for the first 046 field. If resource is a compilation, user will need to manually change subfield coding

bool = CS.GetField("045", 1, OldSingleDate)

Identifies variable

NewSubKDate1 = Mid(OldSingleDate, 10, 4)
If Len(OldSingleDate) >= 19 Then
NewSubODate2 = Mid(OldSingleDate, 19, 4)
End If

Builds new variable based on variable

If Len(OldSingleDate) >= 28 Then
NewSubODate3 = Mid(OldSingleDate, 28, 4)
End If

Repeats if there are additional 045 $b's

If Len(OldSingleDate) >= 37 Then
NewSubODate4 = Mid(OldSingleDate, 37, 4)
End If
If Len(OldSingleDate) >= 46 Then
NewSubODate5 = Mid(OldSingleDate, 46, 4)
End If
If Len(OldSingleDate) >= 55 Then
NewSubODate6 = Mid(OldSingleDate, 55, 4)
End If

bool = CS.AddField(10,"046 " & Chr(223) & "k " & NewSubKDate1 & " " & Chr(223) & "2 edtf")
If Len(OldSingleDate) >= 19 Then
bool = CS.AddField(11,"046 " & Chr(223) & "o " & NewSubODate2 & " " & Chr(223) & "2 edtf")

Generates 046 $k based on variable built from 045 $b

End If
If Len(OldSingleDate) >= 28 Then
bool = CS.AddField(12,"046 " & Chr(223) & "o " & NewSubODate3 & " " & Chr(223) & "2 edtf")
End If
If Len(OldSingleDate) >= 37 Then
bool = CS.AddField(13,"046 " & Chr(223) & "o " & NewSubODate4 & " " & Chr(223) & "2 edtf")
End If
If Len(OldSingleDate) >= 46 Then
bool = CS.AddField(14,"046 " & Chr(223) & "o " & NewSubODate5 & " " & Chr(223) & "2 edtf")
End If
If Len(OldSingleDate
bool = CS.AddField(1!   Chr(223) & "2 edtf")
End If

3 additional subroutines for:
• score, range of dates
• SR, single date(s)
• SR, range of dates

End Sub

Macro #1 – Generate 046(s) from 045

- **Room for improvement**
  - Assumes only 045 $b subfields, each in the form "dYYYY"
  - Needs refinement to handle $b subfields with longer strings (e.g., "dYYYYMM")
  - Does not yet handle $a subfields (which use a complex alphanumeric date encoding system)

Macro #2 – Generate 13-digit ISMN from 10-digit ISMN

- **Problem**: older scores (pre-2008) with a 10-digit ISMN have a 13-digit equivalent (often present on later printings), but the longer ISMNs have not been programmatically added to master records (à la ISBNs in 020)

- **Solution**: take existing 024 field with 10-digit ISMN, replace "M" with "9790" and paste into new 024 field
  - Example: 024 2_ M004212066 begets 024 2_ 9790004212066
  - Good news: check digit is the same

Macro #2 – Generate 13-digit ISMN from 10-digit ISMN

```
Sub Main

For i = 1 to 10
bool = CS.GetField("024", i, ShortISMN)

If bool = TRUE Then
    If Mid(ShortISMN, 4, 1) = "2"  Then
        If Mid(ShortISMN, 6, 1) = "M"  Then
        CommonISMN = Right(ShortISMN, 9)
        bool = CS.AddField(10,"0242 " & "9790" & CommonISMN)
        End If
    End If
End If
Next i

End Sub
```

Iterates up to 10 times (if multiple ISMN-10s present)

Tests for correct indicator and first character

Creates variable from string of 9 characters following "M"

Adds "9790" to beginning of variable just created and inputs it in new 024 field

Macro #2 – Generate 13-digit ISMN from 10-digit ISMN

- **Room for improvement**
  - If 10-digit ISMN field contains qualifying info in $c and/or $q, the commonISMN variable is corrupted (e.g., 9790‡q (v. 1))
  - Probably easy to fix, but left as is to show the danger in using the Right() operator (and thus assuming how a field will end)
    - Possible fix (not yet tested): change CommonISMN = Right(ShortISMN, 9) to CommonISMN = Mid(ShortISMN, 7,8)

Macro #3 – Run multiple macros on a set of records

- (Yes, you can write a macro that incorporates pre-existing macros!)

- **Problem**: running the same macro(s) on a set of similar records is tedious

- **Solution**: save set of records to a file, and write a meta-macro to run 3 separate macros on each record in turn

Macro #3 – Run multiple macros on a set of records

Sub Main

bool = CS.GetFirstItem
  NextRec = TRUE

  Do
    CS.RunMacro "046.mbk!Add046"
    CS.RunMacro "NewBook.mbk!AddISMN-13"
    CS.RunMacro "NulMusic.mbk!MusicAddFields"
    bool = CS.SaveToLocalFile(FALSE,FALSE)
    NextRec = CS.GetNextItem
  Loop While NextRec <> FALSE
  bool = CS.CloseRecord(TRUE)

Done:
End Sub

Starts with first record in a save file list

Gary Strawn's OCLC Music Toolkit (generates 386, 655, etc. based on MLA algorithm)

Iterates as long as there is another record in the list to process

Macro #3 – Run multiple macros on a set of records

- **Room for improvement**
  - Could add even more macros!
  - Could add tests for each macro (e.g., run this macro only if record is of a certain format, has a certain field, etc.)

Thank you!!

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Connexion update

David Whitehair

OCLC

Connexion client 3.0

- New release of Windows-based Connexion client

- Conforms to current security and technology standards – no need for Administrator privileges to install

- Provides updated online documentation

- Removes obsolete functionality – GLIMIR options, Institution Records, and more

- Converts macros automatically to 64-bit compatibility

- Requires Windows 10 (64-bit version)

Early adopter field test

- Planned for May/June 2021

- Looking for libraries who use the following functionality:
  - Network-shared local files
  - Macros
  - Label printing
  - CJK E-Dictionary

- If interested in participating, contact cnx-product@oclc.org

Timing

- Release in July/August 2021

- Support for older versions will be discontinued in 2022 with minimum of 3 months advance notice

- Watch for additional information

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Message of the Day

- Message of the Day displays when you logon with Connexion browser or Connexion client

- Soon it will be changed to display a welcome message, but it will no longer display a new message each day

- Instead, please watch news posts from Cataloging and Metadata community for ongoing announcements

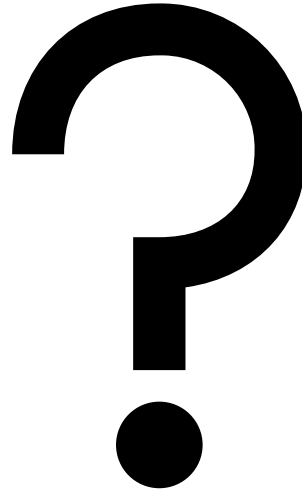- https://www.oclc.org/community/cataloging-metadata.en.html

OCLC

Using Connexion browser?

- Consider giving WorldShare Record Manager a try
- Watch for an upcoming virtual meeting
- Discussions will include
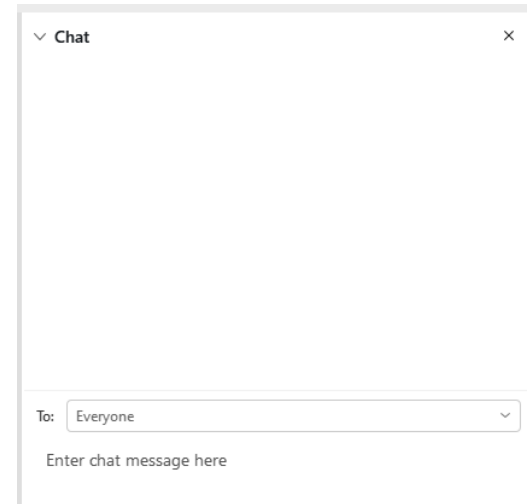 - exclusive Record Manager functionality
  - improved workflows
  - and more….

WorldShare® Record Manager

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Submit questions in Chat.
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To: Everyone

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OCLC Cataloging Community Meeting 2021-01

OCLC Cataloging Community Meeting

15 January 2021