

MAKE YOUR CAT(a)log PURR

Optimizing your Sierra or Millennium System



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Kraemer Family Library

UNIVERSITY OF COLORADO **COLORADO SPRINGS**

Objectives

- What is an ILS audit?
- Getting Started
- Data Definition and Clean Up
- Streamlining Workflows
- Auditing the Security of Your ILS
- Future Steps

What is an ILS Audit?

- A systematic review of your library's integrated library system (ILS) with the goal of securing, optimizing, and documenting its configuration.
- An excellent opportunity to revisit past decisions to see if they still make sense.
- A chance to access, create, and preserve institutional memory around your ILS.
- Documentation and understanding of your system in the event of a future migration.

Who We Are

- **Kraemer Family Library**—Midsize academic library serving a community of approximately 12,000+ users
- **ILS** —Currently running Innovative Interface's Sierra, v. 4.1, on our own local server.
- **Longtime Innovative user**—Began using INNO-PAC in 1998, then migrated to Millennium, and moved to Sierra in 2012.

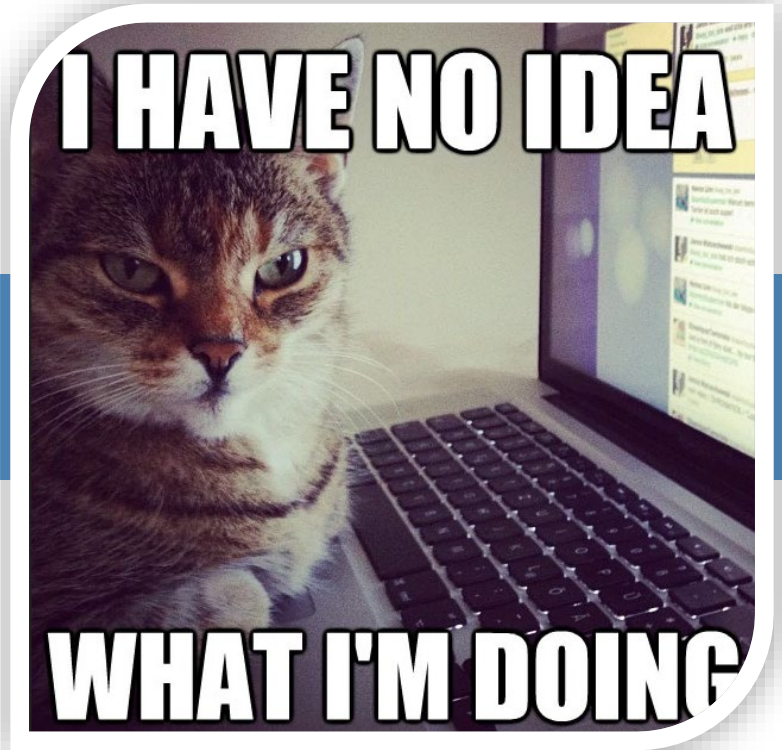


Why Did *We* Need to Conduct an ILS Audit?

- Kraemer Family Library experienced a wave of retirements beginning in 2013.
- In 2014, we hired a new systems librarian, and in 2017 a new director of cataloging and a new director of access services.
- Along the way, we lost a LOT of institutional memory.
- Since 2014, upgraded from Sierra 1.6 to 4.1, each release adding functionality that we might not be taking advantage of in long established processes.



Getting Started



Assembling Your Team

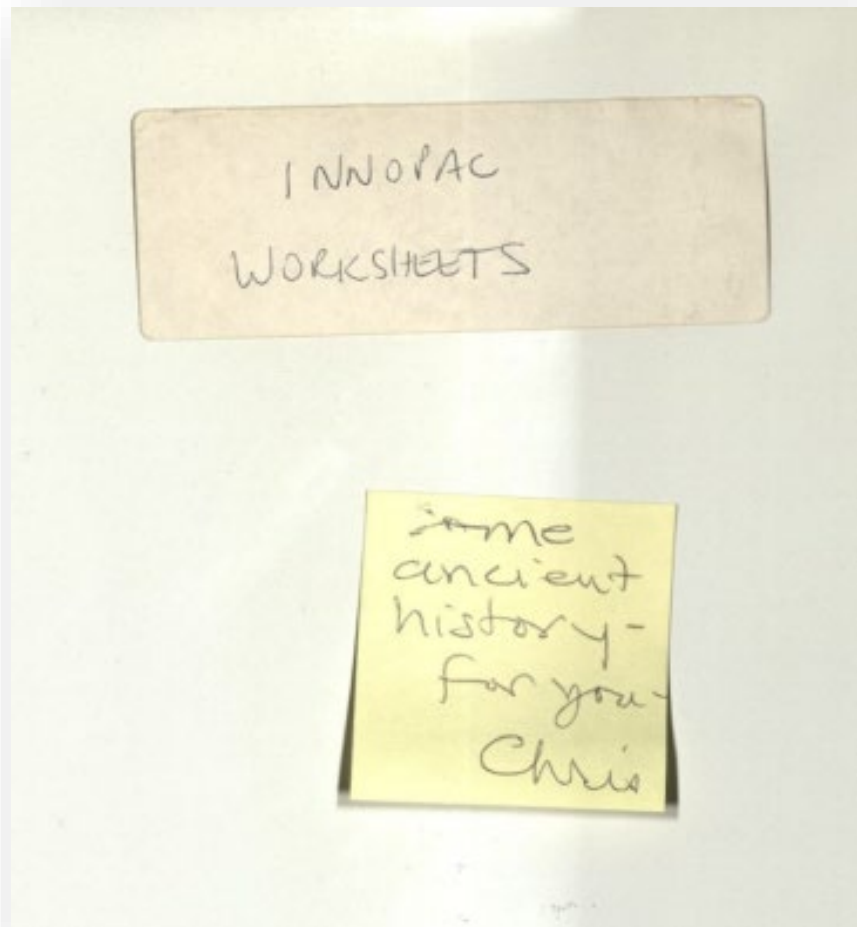
- To conduct a sweeping audit of your system, you will need to assemble a diverse group of people:
 - **Systems administrator**
 - **Head of cataloging**
 - **Head of circulation/access services**
 - **Longtime employees with broad knowledge of past decisions, systems migrations, and institutional history**
- You may also need to rotate in employees with in-depth working knowledge of specific parts of the system

How will you plan, collaborate, and document?

- What documentation do you already have about your system?
Is it current?
- How and where will you store the documentation you produce?
- Are you going to standardize that documentation?
- Who should have access?



Our Existing Documentation...



LOG OF WORKSHEETS			
Please fill in the dates when you send the worksheets to Innovative. The "changeable" column indicates whether the parameters on a worksheet can be changed at no charge once the library's profile has been finalized.			
All Worksheets Listed On This Page Are Due At Innovative 45 Days Before INSTALLATION (Except #LIB-1, #LIB-2)			
Worksheets #LIB-1 AND #LIB-2 Should Be Returned IMMEDIATELY			
Number	Worksheet Name	Changeable?	Date Sent
Preliminary - All Libraries			
LIB 1	Library Name and Address	N/A	1-15-98
LIB-2	Source of Tapes	N/A	1-15-98
Database Profile: Bibliographic/Item Records - All Libraries			
BIB-1	INNOPAC Field Group Labels and Tags	No	1-15-98
BIB-2	Assign MARC Fields	No	1-15-98
BIB-3	BCODE Values	Yes	1-15-98
BIB-4	INNOPAC Item Field Group Labels and Tags	No	1-15-98
BIB-5	Creating Item Records	No	1-15-98
BIB-6	Item Field Mapping	No	1-15-98
BIB-7	Location Codes in Bibliographic record	Yes	1-15-98
BIB-8	Location Codes in Item record	Yes	1-15-98
BIB-9	Subject Headings	Yes	1-15-98
BIB-10	Call Numbers	Yes	1-15-98
BIB-11	Indexing Profile	No	1-15-98
BIB-12	Keyword Indexing	No	1-15-98

Things to Consider Along the Way

- Always keep in mind how system changes could affect patrons
- An ILS audit is a lengthy project, and one you will need staff buy-in for to do properly
- You will need to provide periodic updates to your staff



Where to Begin

- It depends...
 - On your institution's unique ILS history
 - On the political climate at your institution
 - How open to change is your library?
- We started with item statuses because...
 - We knew that big changes, such as changes to our loan rules, would be controversial
 - Are item statuses need to be cleaned up anyway, and are far less controversial since they don't affect loan periods, etc.
- Before changing ANYTHING, document your ILS's data inputs and outputs
- Also document your current configuration before changing it



Documenting Your ILS's Data Inputs and Outputs

- Creating a chart can help you visualize all the different data flowing into and out of your ILS.
- As you make changes to your ILS you can better anticipate how these changes might affect other systems that you send data to or pull data from.
- For instance, we recently changed some item status values in our ILS and had to report them to Prospector to ensure the materials still circulated properly.

Our Sierra Server's Data Inputs and Outputs

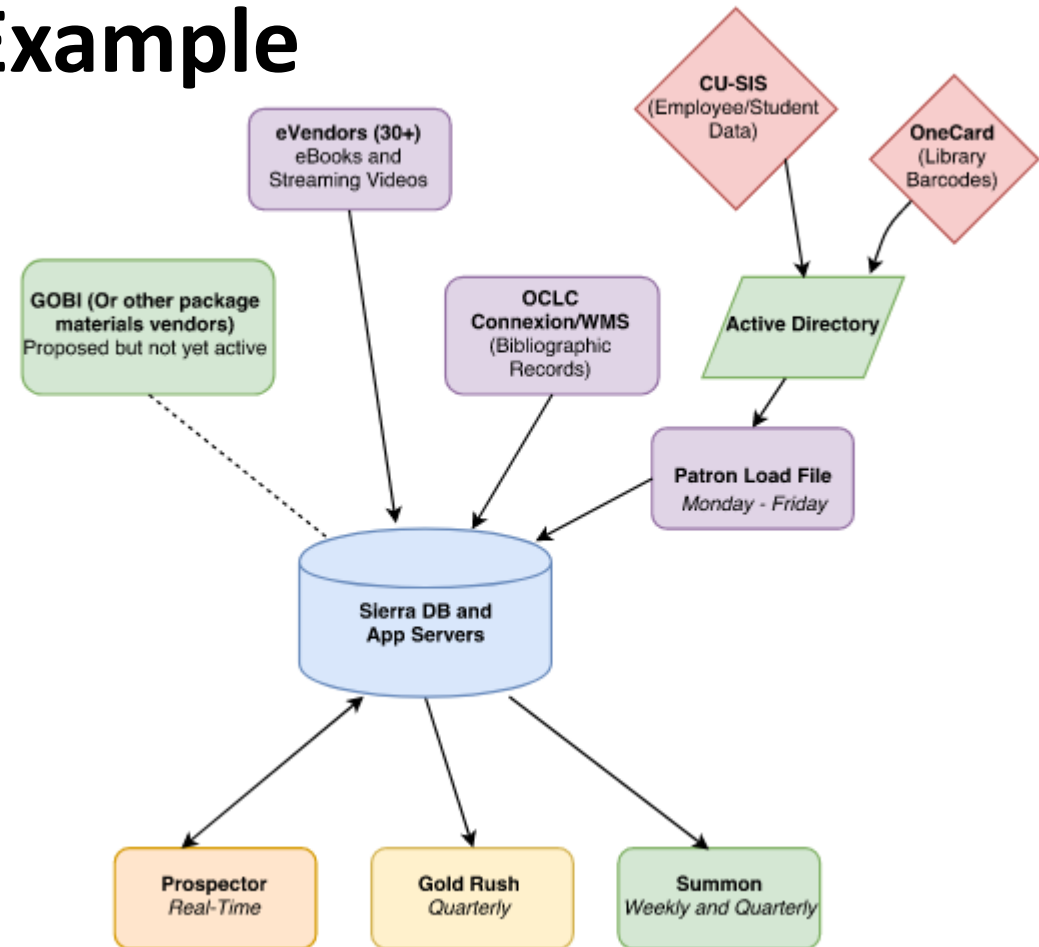
- **Data inputs:**
 - Bibliographic Records
 - Patron Records
- **Data outputs:**
 - Bib Records to Union Catalog
 - Bib Records to Discovery Service
 - Bib Records to Union Catalog Overlap Analysis Tool
- Created with the free flowchart software Draw.io (<https://www.draw.io>)



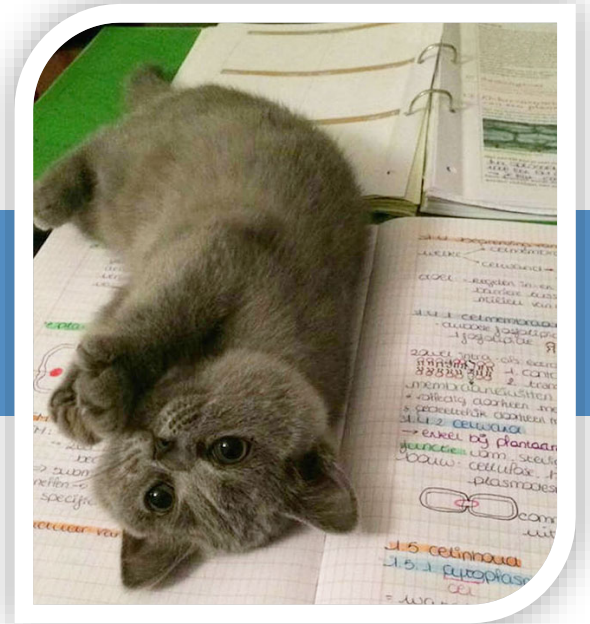
Audience Activity: Map your Own ILS's inputs/outputs

- Complete the handout by filling in what you know about your own ILS's data inputs and outputs
- Use the provided boxes and feel free to add more if needed
- Think about where all the data in your system comes from and the other systems your ILS feeds into

Example



Data Definition & Cleanup



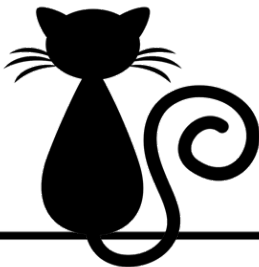
General Procedures

- Document current values: label, code, source, definition, purpose, etc.
- Gather stats on current usage
- Develop shared definitions for consistency across departments
- Make recommendations for removing & adding values
- Note potential impact on other lists/settings
- Create or update documentation

Item Status

- Purpose
 - System Functions
 - Temp. Locations
 - Internal Processes
- Other Considerations
 - Include in documentation which should statuses should not be set manually
 - Coordinate code with Prospector
- Results
 - Started with 25, Ended with 25
 - System Supplied: 9
 - INNReach: 7
 - KFL: 10
 - Removed 3 that are no longer used
 - Renamed 2 for clarity
 - Added 3 clarify temporary locations & new internal process
 - Patron benefits: Easier to locate displays, more accurate shelving locations, etc.

Damaged d	Item has damage and was sent to Tech. Serv. for repairs
KFL Created	Out of circulation. I have seen this status when items are sent to Tech. Services for repair – usually sent on for binding
(68 as of 4/6)	This means to me it is either on the binding shelf in Tech Serv or in Cataloging to get repaired, new case, new labels etc.
	This item is not usable as is. / Order searching: Use rgpb funds and order as a replacement copy. Gift searching: expedite this gift so that the selector can replace the Damaged item asap if wanted.
	Not available for check out, not currently being repaired
Flood f	Item damaged in a flood?
KFL Created	Water damaged items from a flood event? Needing to be identified and possibly evaluated for replacement?
(0 as of 4/6)	I have never used this status but assume that this item has been damaged by flooding and is in a specific location
In Cataloging c	Same as damaged, but with water?
KLF Created	Item is being cataloged
(1,209 as of 4/6)	Item being cataloged – not available
	Item has been cataloged but not yet processed
	The item has been ordered & received; it is waiting for processing before going to the stacks. / Order searching: New orders for this item are duplicates, do we want a c.2?
	Not available for check out, but soon to be on the shelf



- Proposed changes:
- Eliminate Flood and just use Damaged
 - Combine New Books and New Videos to New
 - Create two display statuses: 2nd Floor Display, 3rd Floor Display, and eliminate generic Display Status
 - Eliminate On Search – Investigate further, how will it affect missing processes?
 - Begin using new instead of display for Graphic Novels
 - Create display status for Intergenerational Display, build public facing list for Martin



Item Status	Field Code	Source	Purpose
Available	-	System Supplied	Available for checkout
Billed	n	System Supplied	Patron billed for lost item
Bindery	b	KFL Created	At the bindery
Claims Returned	z	System Supplied	Patron says the item was returned but we can't find it
Damaged	d	KFL Created	Item is damaged
In Cataloging	c	KFL Created	Item is being cataloged
In Transit	t	System Supplied	Item is in transit between branches (we don't have multiple branches)
Library Use Only	o	System Supplied	Item can only be used in the library
Lost	l	System Supplied	Item has moved from missing status and is considered lost
Lost and Paid	\$	System Supplied	Patron lost an item and has paid
Missing	m	System Supplied	Item should be available but cannot be found on the shelf
New	y	KFL Created	Items new to the collection
Off Campus	@	INN-REACH supplied	Item stored at an off-campus location
Replaced	i	KFL Created	Item was missing or lost and has been replaced with a new item
Display - 2nd Floor	p	KFL Created	Items on display on the 2nd floor
Display - 3rd Floor	h	KFL Created	Items on display on the 2nd floor
Display - Intergeneration	u	KFL Created	Items on display in the Intergeneration Display
On Holdshelf	!	System Supplied	Patron placed hold is now available for pickup

Branches [Locations]

- Note: We are a single branch library
- **Purpose**
 - Physical location within the library
- **Other Considerations:**
 - Locations can impact Loan Determiner Table
- **Results:**
 - Started with 38, Ended with 28
 - Removed those no longer used
 - Merged several
 - Added one to clarify and remove information from note in bib. record



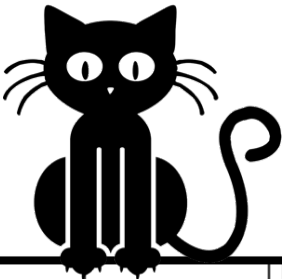
Branch Name	Branch Code	Public	Purpose	Floor
Annual Reports	annrc	FALSE		
Audio Cassette	audic	FALSE	audio cassettes; behind the circulation desk; SHOULDNT HAVE ANYMORE	2nd Floor
Child Lit Oversize	chilo	FALSE	NO LONGER USED	
Computer Software	comsc	FALSE		
Equipment	equip	FALSE		
Internet Resources	intrc	FALSE		
Slides	slidc	FALSE		
CD Circulating	cdroc	FALSE	circulating spoken word CDs; behind the circulation desk	2nd Floor
Child Lit	chilc	TRUE	Children's books (ages 0-12)	2nd Floor
Circulation Desk	circ	FALSE	Used to indicate patron's "home library"	
Colorado Documents	coldc	TRUE	State of Colorado Documents	2nd Floor
Curriculum	currc	TRUE	materials intended for use in a K-12 classroom; lesson plans, class activities, kits, textbooks, workbooks, etc.	2nd Floor
Graphic Novels	gnove	TRUE	Young adult and adult graphic novels; nonfiction & fiction	2nd Floor
Government Documents	govdc	TRUE	U.S. government documents	2nd Floor
Main Collection	mainc	TRUE	general circulating materials under 30 cm	3rd Floor

Branch Name	Number of Bibs as of 5/10/2018	Number of Items as of 5/10/2018	Recommendation to Delete?	Recommendation to merge with another location?	Notes
Annual Reports	0	0	Yes		
Audio Cassette	5	6	Yes		Lynn removed the remaining records
Child Lit Oversize	0	0	Yes		
Computer Software	0	0	Yes		
Equipment	1	5	Yes	Merge with Circulation Desk	
Internet Resources	0	0	Yes		
Slides	0	0	Yes		
CD Circulating	220	308	No		Possibly move to floor for public display
Child Lit	7384	7492	No		
Circulation Desk	0	0	No		Possibly use for equipment, adapters, etc
Colorado Documents	21,892	23,685	No		
Curriculum	1235	4021	No		
Graphic Novels	722	1020	No		
Government Documents	49,507	53,304	No		
Main Collection	315,389	341,326	No		Rename to Main Collection - 3rd Floor

Patron Type

- Purpose
 - System Functions
 - InnReach Statistics
- Other Considerations:
 - Assigned automatically through patron load
 - If changing, do in conjunction with item types, loan rules and loan determiner table
- Results:
 - Started with 16, ended with 12
 - Removed several that were no longer used because of the patron load process, no longer supported by Innovative, and an old fee-for-service agreement
 - Renamed two in order to improve statistical gathering from InnReach

Proposed Patron Type Changes				
#	Label	Use	Retain	Notes
0	Lib fac and staff(old-don't use)	Local	No	Had to move to ptype 20 due to WebPAC issue d
1	Undergraduate	Local	Yes	
2	Graduate	Local	Yes	
3	Faculty/Staff	Local	Yes	
4	Colorado Library Card	Local	Yes	
5	InfoLink	Local	No	Old fee-for-service patrons; no longer used
6	Other UCCS	Local	Yes	
7	Faculty Research Assistant	Local	Yes	
8	Interlibrary Loan	Local	Yes	
9	Library Asst. Undergrad	Local	No	No longer used because of patron load process; r



6	Other UCCS	Local
7	Faculty Research Assistant	Local
8	Interlibrary Loan	Local
11	Donors/Volunteers	Local
12	Other colleges	Local
13	NSSI	Local
14	CSCS	Local



Patron Record Fields: PMESSAGE, MBLOCK, PCODE1

- Need to review current use & field properties
- Other Considerations:
 - Are they used by the system?
 - Can we use them for functions we are currently doing manually?
 - Is there statistical information that can come from any of these?



Three overlapping "Select" dialog boxes are shown, illustrating the structure of the Patron Record Fields.

Top Left Dialog:

CHECK ADDRESS	a
CHECK EMAIL	e
CHECK PAT TYPE	p
error	
GET DEPARTMENT	d
GET PHONE #	t
NO MESSAGE	-
ON THE FLY	f
UPDATE EXP DAT	u

Top Right Dialog:

-	AIR FORCE ACA	COLO COLLEGE	COLO TECH
CSCS	CSU	CSU PUEBLO	CU-NET
CURIOS UNL	DU	error	EXTED STUDIES
FAC/ST SPOUSE	LIB DONOR	LIB VOLUNTEER	LISTENING IN
NSSI	null	OTHER	OTHER CU FAC
OTHER CU GRA	OTHER CU STA	OTHER CU UGF	OTHER ST COLI
PRE-COLLEGE	REGIS COLLEGE	UCCS ALUMNI	UNC

Bottom Dialog:

-	
AT COLLECTION	c
FINES NOT COLL	f
INFOLINK FEE	i
OTHER LIB BLOC	o
OWES MONEY	m
RETURNED CHECK	r

An Opportunity to Collect Better Circulation Statistics



p1054981x Last Updated: 03-19-2019 Created: 07-07-2014 Revisions: 1285

EXP DATE	06-09-2019	CUR CHKOUT	1	CUR ITEMB	0
PCODE1	-	HOME LIBR	circ Circulation Desk	ILL REQUES	0
PCODE2	-	PMESSAGE	- NO MESSAGE	CUR ITEM C	0
PCODE3	0 Non delinquent	MBLOCK	-	CUR ITEM D	0
P TYPE	20 Lib faculty and staff	CL RTRND	0	CIRCACTIVE	02-19-2019
TOT CHKOUT	43	MONEY OWED	\$0.00	Notice Preference	z
TOT RENWAL	38	CUR ITEMA	0		
PATRN NAME	Tonyan, Joel Douglas				

- Discovered that weren't using PCODE2 and PCODE3 fields in our Sierra Patron Records
- Working on a project to load student college/major information into these fields to get a better sense of which colleges/majors are using the library's print collection.

Mapping Academic Colleges to Patron Records

PCODE2

English

Valid Character	Meaning
b	Business
e	Education
f	Engineering & Applied Sci
l	Letters, Arts, Sciences
n	Nursing & Health Sciences
p	School of Public Affairs
o	Non-Degree Seeking

Add RowDelete Row

Last Updated: 04-23-2019 Created: 08-09-2016 Revisions: 754

EXP DATE	06-09-2019	CUR CHKOUT	2	CUR ITEMB	0
PCODE1	-	HOME LIBR	circ Circulation Desk	ILL REQUES	0
PCODE2	l Letters, Arts, Sciences	PMESSAGE	- NO MESSAGE	CUR ITEMC	0
PCODE3	0 Non delinquent	MBLOCK	-	CUR ITEM D	0
P TYPE	1 Undergraduate	CL RTRND	0	CIRCACTIVE	04-03-2019
TOT CHKOUT	25	MONEY OWED	\$0.00	Notice Preference	- ---
TOT RENWAL	11	CUR ITEMA	0		

PATRN NAME

ADDRESS

TELEPHONE

Mapping Academic Colleges to Patron Records

Circulation Crosstab Reported on 04/23/2019

Checkout (04/01/2019 -- 04/23/2019) By LOCATION By PCODE2

	-	Business	Education	Engineering & Applied Sci	Letters, Arts, Sciences	Non-Degree Seeking	Nursing & Health Sciences	School of Public Affairs	Total
CD Circulating	5	0	0	0	0	0	0	0	5
Child Lit	52	2	0	2	3	0	0	2	61
Circulation Desk	45	6	2	4	17	0	1	2	77
Curriculum	6	0	0	0	0	0	0	0	6
Government Docu	2	0	0	0	0	0	0	0	2
Graphic Novels	52	1	2	2	4	0	0	0	61
Main Collection -	1391	3	13	35	194	4	7	13	1660
Maps	1	0	0	0	0	0	0	0	1
Music	18	0	0	0	0	0	0	0	18
Online	35	0	0	0	0	0	0	0	35
Oversize - 3rd Flc	8	0	0	0	1	0	0	0	9
Popular Reading	26	1	0	0	0	0	0	1	28
Reference	0	0	0	0	1	0	0	0	1
Reserves	917	47	4	180	359	13	39	43	1602
Videodiscs	181	16	0	4	21	0	0	1	223
Young Adult	31	0	0	2	4	0	0	2	39
TOTAL	3000	77	25	233	657	18	47	64	4121

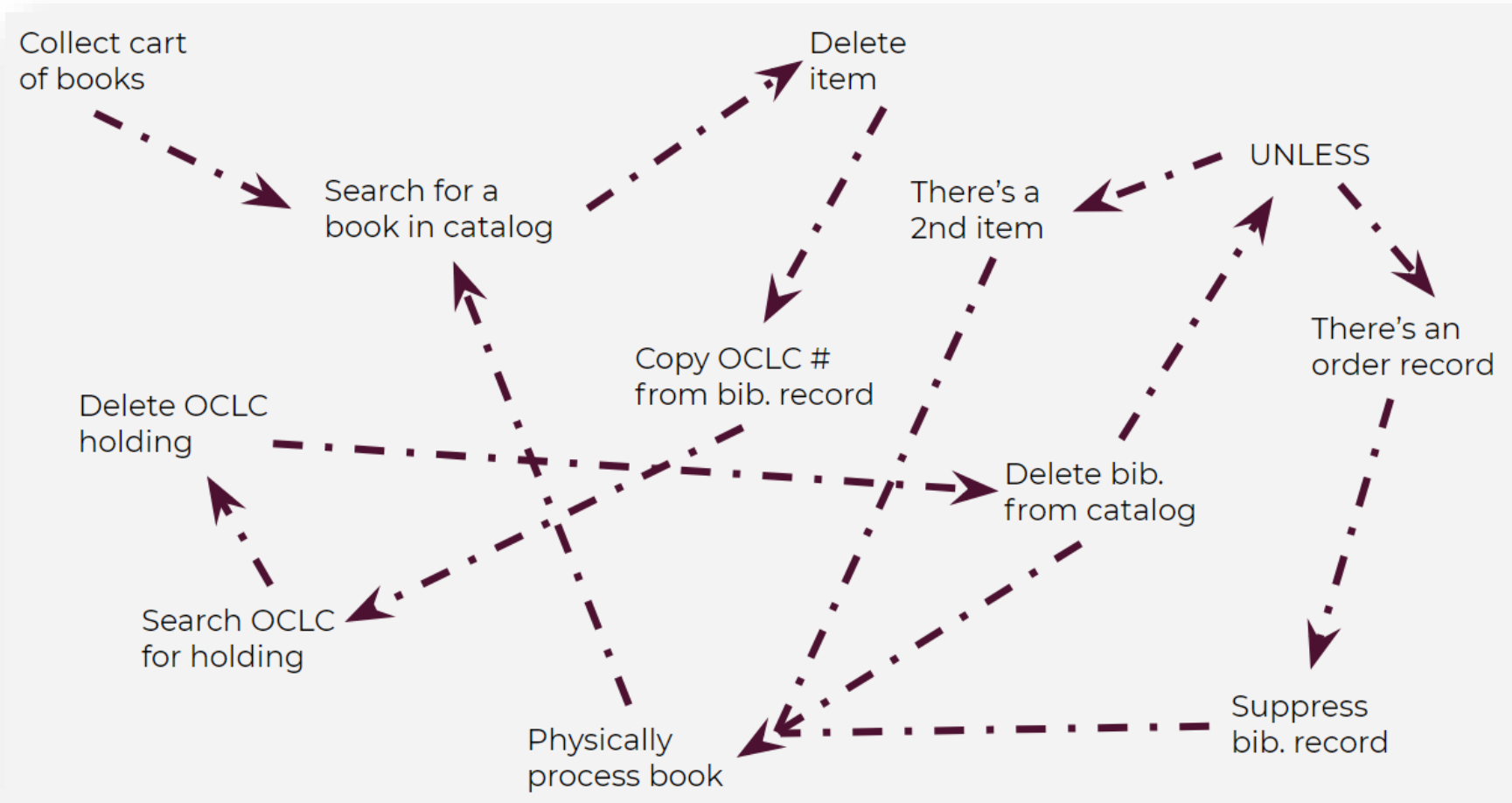
Streamlining Workflows



General Procedures

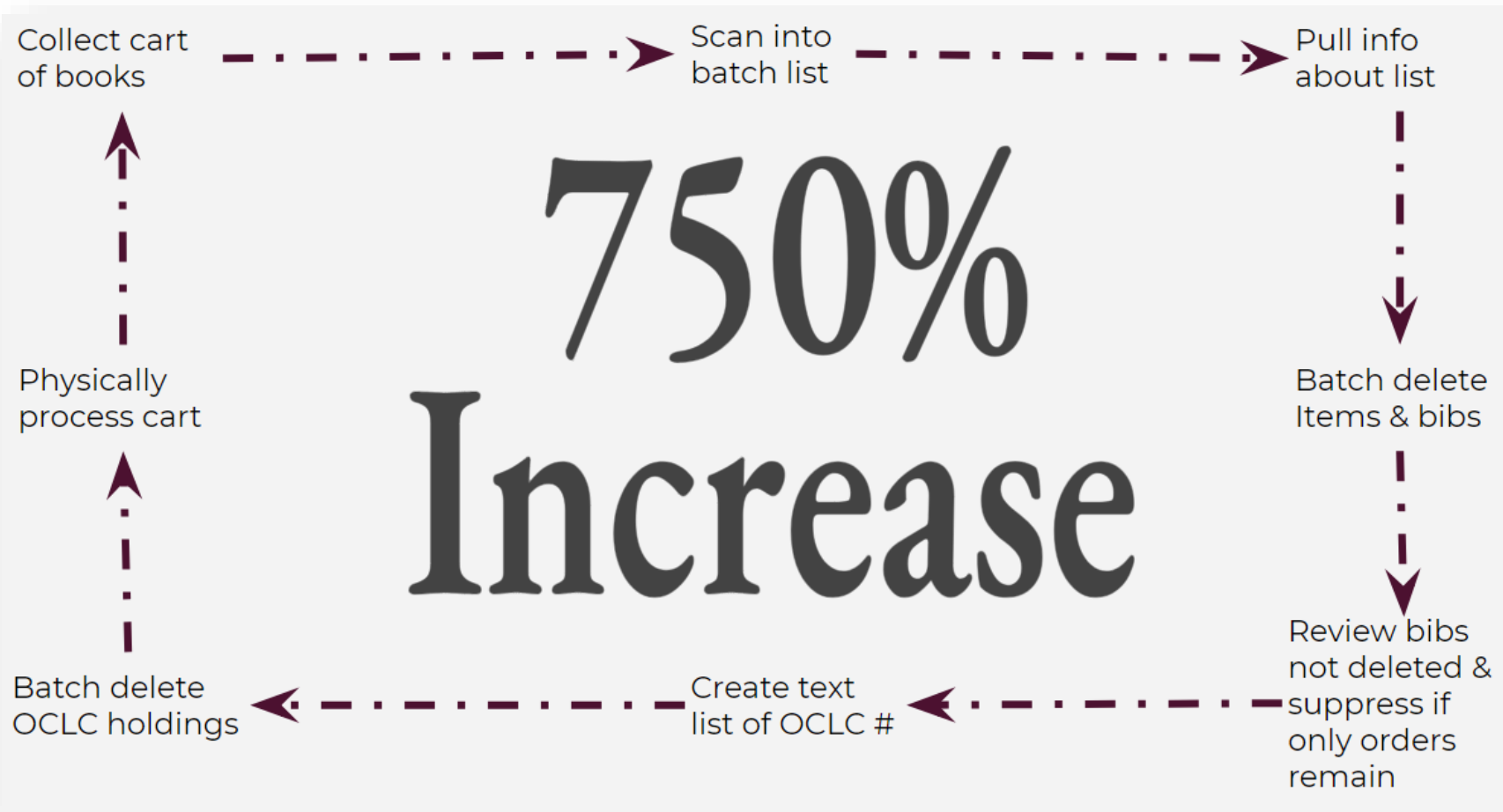
- Document current workflow
- Review system documentation (particularly if you have been using the system for a while and have gone through software upgrades)
- Determine the desired result of the workflow
- Are any steps duplicates? Can any be combined?
- Are there batch processes that could be used?

Original Weeding Workflow



- 1 person working 1/2 time
- No other projects or responsibilities
- 1 cart finished in 2 days
- Average of 400 items per month

Revised Weeding Workflow



- 1 person working $\frac{3}{4}$ time
- Lots of other projects & responsibilities
- 1 cart finished in $\frac{1}{2}$ a day
- Average of 3,000 items per month

Auditing the Security of your ILS



Basic Principles of ILS Server Security

- Grant access only to staff members who absolutely need it
- Grant the minimum amount of permissions staff need to do their jobs
- Enforce strong password policies
- Disable remote access to your server unless it's absolutely needed
- Regularly monitor system logs, login records, etc.

What We've Done at the Kraemer Family Library

- First, reviewed server logs and noticed repeated attempts to access our server via SSH from outside the United States
- Locked down SSH access to our campus IP range, automatically denying access from off campus

```
NETWORK ACCESS ADMINISTRATION
01 > TELNET : Remote Login using TELNET
02 > LOGIN  : Remote Login
03 > SSHD   : Secure Login
04 > Z39
05 > OCLCNET
06 > ILLTRANS
07 > SIERRA-MILSH
08 > MILLENNIUM
09 > IRCIRCD
10 > IIIFTP
11 > SMILSH
12 > MILDATA
13 > HTTP
14 > INFOWAVE
15 > List access attempts rejected
16 > List non-local access attempts allowed

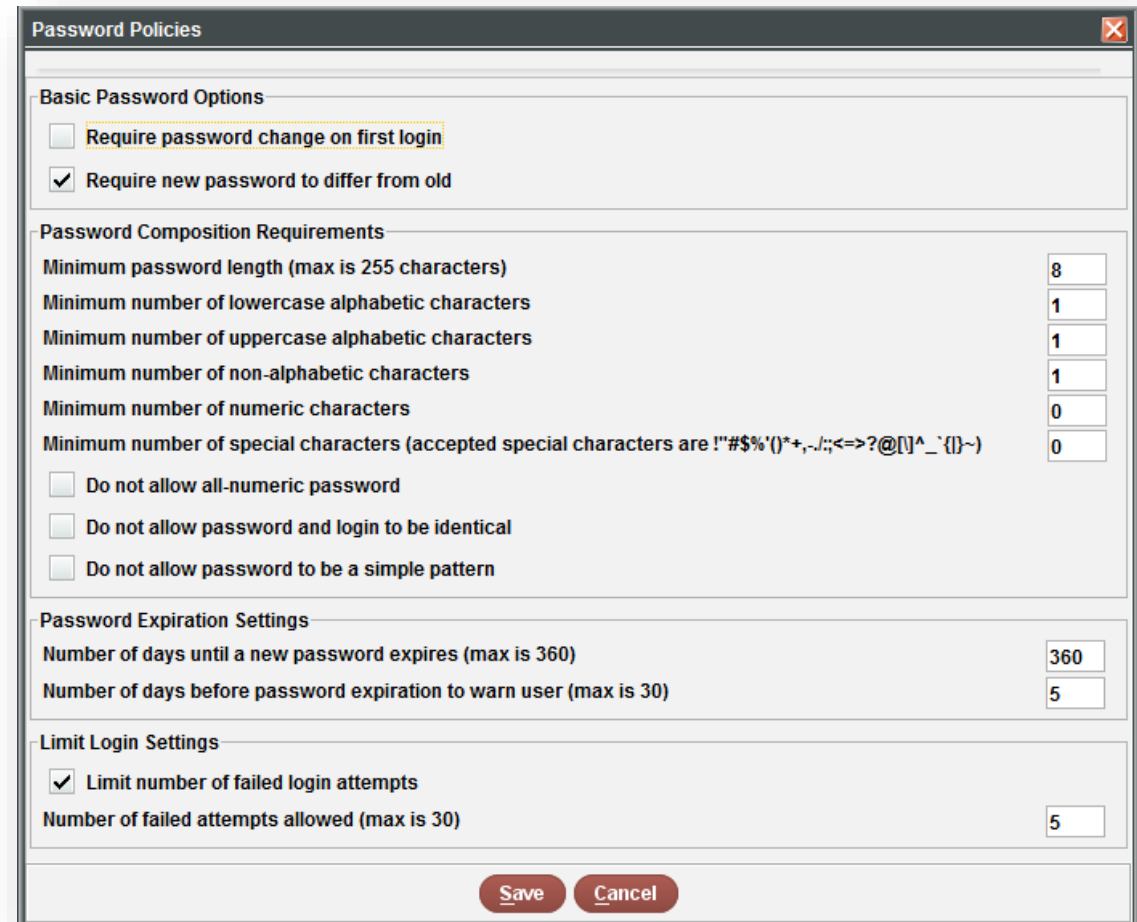
+-----+
|Key number to modify or
|Q > QUIT
|Choose one (1-16,Q) █
|
```

```
SSH ACCESS ADMINISTRATION
```

	REMOTE HOST	ACCESS?	LOGIN NAME
1 >	109.199.99.29	Yes	root
2 >	109.199.199.29	Yes	root
3 >	109.199.	Yes	
4 >	all	No	

What We've Done, cont.

- Next, we reviewed the staff password features in our ILS and enabled password policies
- We now require:
 - 8-character minimum passwords
 - At least one lowercase character
 - At least one uppercase character
 - At least one non-alphabetic character
 - Passwords to be updated annually
 - New passwords to differ from old passwords



The screenshot shows a 'Password Policies' configuration window with the following settings:

- Basic Password Options**
 - ☐ Require password change on first login
 - ☒ Require new password to differ from old
- Password Composition Requirements**
 - Minimum password length (max is 255 characters): 8
 - Minimum number of lowercase alphabetic characters: 1
 - Minimum number of uppercase alphabetic characters: 1
 - Minimum number of non-alphabetic characters: 1
 - Minimum number of numeric characters: 0
 - Minimum number of special characters (accepted special characters are !"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~): 0
 - ☐ Do not allow all-numeric password
 - ☐ Do not allow password and login to be identical
 - ☐ Do not allow password to be a simple pattern
- Password Expiration Settings**
 - Number of days until a new password expires (max is 360): 360
 - Number of days before password expiration to warn user (max is 30): 5
- Limit Login Settings**
 - ☒ Limit number of failed login attempts
 - Number of failed attempts allowed (max is 30): 5

Buttons: Save, Cancel

What We've Done, cont.

- Finally, we began a systematic review of staff permissions in Sierra.
- We produced a spreadsheet listing every available permission and who it's assigned to as a first step to removing unneeded permissions.

	A	B	C	D	E	F	G
1	Permission	Circulation Students	Circulation and Cataloging Student (s				
2	* (5) Materials Booking function	N	N	N	N	N	N
3	* (6) Key new records	N	N	N	N	N	N
4	* (7) Update existing records	N	Y	Y	Y	Y	Y
5	* (8) Rapid updating	N	N	N	N	Y	N
6	* (10) Transfer attached records	N	Y	N	N	N	N
7	* (13) Maintain scopemenu/Scope authorities	N	N	N	N	N	N
8	* (14) Web Collection Development reports	N	N	N	N	Y	N
9	* (15) Analyze patron searches	N	N	N	N	N	N
10	* (16) Read patron suggestions	N	N	N	N	N	N
11	* (17) Circulation statistics	N	N	N	N	Y	N
12	* (18) Create lists of records	N	Y	Y	Y	Y	Y
13	* (19) Create statistical reports	N	N	Y	N	Y	N
14	* (22) Backup database	N	N	N	N	N	N
15	* (23) Shutdown the system	N	N	N	N	N	N
16	* (24) Read/write MARC records	N	N	N	N	N	N
17	* (25) Delete records of any type	N	N	N	N	N	N
18	* (26) Restart a terminal	N	N	N	N	Y	N
19	* (27) Maintain record links	N	N	N	N	N	N
20	* (28) Change menu messages	N	N	N	N	N	N
21	* (29) Free records in use by system	N	N	Y	Y	Y	Y
22	* (30) Passwords and authorizations	N	N	N	N	Y	N
23	* (31) Circulation parameters	N	N	Y	N	Y	N
24	* (32) System codes	N	N	N	N	Y	N
25	* (33) Defaults for new records	N	N	N	N	Y	N
26	* (34) Create keyword synonyms	N	N	N	N	N	N

Future Steps

- Review item types
- Review loan rules
 - Why you need to do preparatory cleanup of components that determine your loan rules, for instance, patron types, shelving locations, etc. first
- Need to speak to users about loan rules
- Update SCAT table
- And much, much more



Thank You! Questions/Comments?

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