

# NOVEMBER FRIDAY

## **Integrations**

- Brief Implementation Project Overview
- Integrations with Phil Robinson
  - Including Discovery & Access with Frances Webb
- Q&A

**NOVEMBER 13<sup>TH</sup>, 10:00 AM - 11:30 AM**  
**ZOOM**

# CUL IMPLEMENTATION TEAM

- Sharon Beltaine (Reporting)
- Ann Crowley (Finance)
- Andy Horbal (Access Services)
- Debra Howell (Project Manager)
- Huda Khan (User Testing)
- Jesse Koennecke (Acquisitions; Serials Processing; Product Council Representative)
- Jason Kovari (Metadata Management; Cataloging)
- Peter McCracken (eResource Management)
- Jean Pajerek (Training)
- Phil Robinson (Infrastructure/Integrations)
- Frances Webb (Discovery)
- Nick Cappadona (FOLIO/LS Tools)
- Jenn Colt (Data Migration)
- Laura E. Wright (Metadata Management)

# UPCOMING PROJECT MILESTONES

**January 2021 – Training Begins**

**January 2021 – Create CUL Governance & Support Models**

**March 2021 – Iris Release**

**July 1, 2021 – Go Live!**



# **INTEGRATIONS**

**PHIL ROBINSON**  
**FRANCES WEBB**

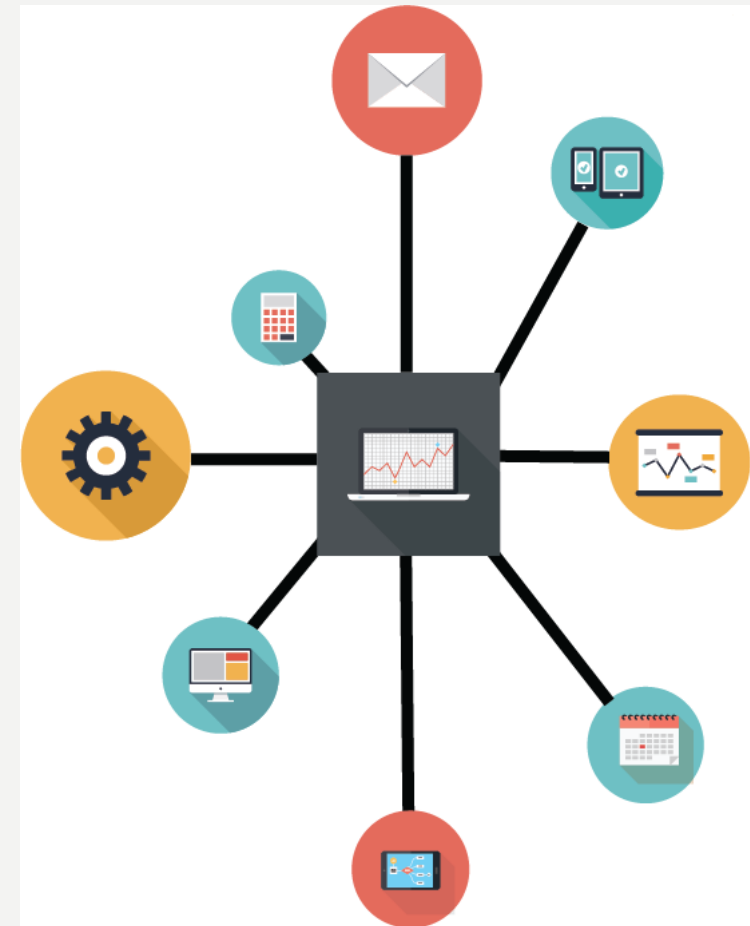
# WHY AM I RAMBLING ON ABOUT INTEGRATIONS?

- After managing the CIT Custom Applications team, I was invited to become Assistant Director of a new Integration team I would form, focusing on implementing Workday for Cornell HR / Payroll and supporting Quali Financial System integrations.
- When I joined the Library's IT team, somehow I found myself volunteering to work on FOLIO's integrations 😊



# WHAT ARE INTEGRATIONS???

- *Linking together different computing systems and software applications physically or functionally, to act as a coordinated whole*
- Some kind of automation is usually involved, to reduce manual processing wherever possible
- Transformation and mapping of data between systems, respecting each system's business rules
  - KFS and FOLIO organize purchase order data differently, yet FOLIO will need to push PO information to KFS in a format it understands
  - Integration broker software provides straightforward way to design and enforce these mappings and rules
- By this definition, basic data loads are not really integrations
- As a language nerd, I like to think of integrations as translation software between languages that have different words, syntactic structures, and grammatical rules



# WHAT KINDS OF INTEGRATIONS ARE THERE?

- Real-time / near-real-time (synchronous or near-synchronous)
  - Costly and error-prone, but neat
- Automated batch processes (data integrations)
- Data pub/sub (implying middleware)
- API-driven (Application Programming Interface)
  - FOLIO – Edge APIs
    - Relatively easy way to integrate third-party apps
- *One-time data loads / conversions are not really integrations, as there should be some recurring interaction between systems*
- *Reports are not really integrations, nor using report outputs to feed other systems – because manual; not automated in some fashion*



# FOLIO INTEGRATIONS FOR THE CORNELL LIBRARY

- Patron/User Import
  - From Cornell enterprise systems (Workday, Peoplesoft, Active Directory)
  - For Voyager, this is a file-based integration: CIT copies a file nightly to a server, a Voyager process pulls in the data. Faculty, students, staff, alumni, ....
  - For FOLIO, the CIT Integration team uses integration broker Dell Boomi, to only process new / changed data
  - EBSCO has been helping set up and test the API calls between FOLIO and Cornell
  - Coordinating this with the work done by the Voyager data migration folks

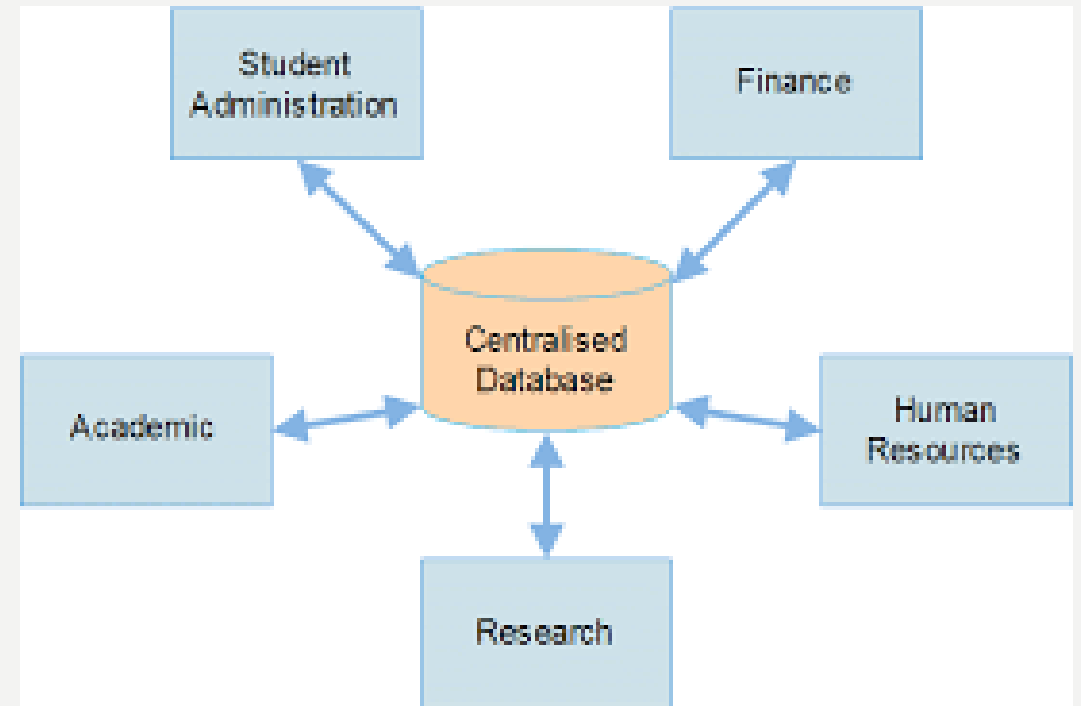




# FOLIO INTEGRATIONS FOR THE CORNELL LIBRARY

- Cornell Single Sign-On (SSO)
  - Cornell NetID-based, calls central Cornell identity validation systems in real-time
  - We configured some FOLIO settings, CIT's Identity Management team configured theirs
  - Available in all 3 EBSCO-supported FOLIO instances (tenants)
- KFS Exports
  - Vendors, purchase orders, financial updates
- Bursar Exports
  - Fees/Fines

<https://issues.folio.org/browse/UXPROD-105>



# FOLIO INTEGRATIONS FOR THE CORNELL LIBRARY

- Annex inventory - Caiasoft
  - “Remote Storage Integration Module (Caiasoft)”  
<https://issues.folio.org/browse/UXPROD-498>
  - Caiasoft will develop the Edge APIs to integrate with FOLIO.
- Borrow Direct / Relais / D2D
  - NCIP, Z39.50 protocols
  - Technical analysis in progress
    - Comparable FOLIO Relais interactions: PALCI Pennsylvania consortium – consulting with Lehigh’s Michelle Suranofsky
    - If we receive BD books for CUL patrons, Relais will call “accept item” NCIP service, which creates rex and puts holds on them. **mod-ncip** does that for FOLIO. Can look up the user by barcode, and support checkin and checkout too.
  - OCLC reps will help test on their end



# FOLIO INTEGRATIONS FOR THE CORNELL LIBRARY

- ArchivesSpace
  - Opportunities to improve current processes
- Aeon
  - More opportunities to improve current processes

AUTHOR	
TITLE	
DUE DATE	BORROWERS NAME
<b>CHECKED OUT!</b>	

# FOLIO INTEGRATIONS FOR THE CORNELL LIBRARY

- Self-Check systems - SIP2 protocol
  - FOLIO supports SIP2 out-of-the-box
  - @ CUL: MeeScan? Bibliotheca?
  - Anticipated to become more important for contactless circ
- OverDrive
  - Also leverages SIP2
- Atlas Systems' Ares (Course Reserves)
  - Mod the existing API integration to work with FOLIO
- Discovery & Access – Blacklight + Solr

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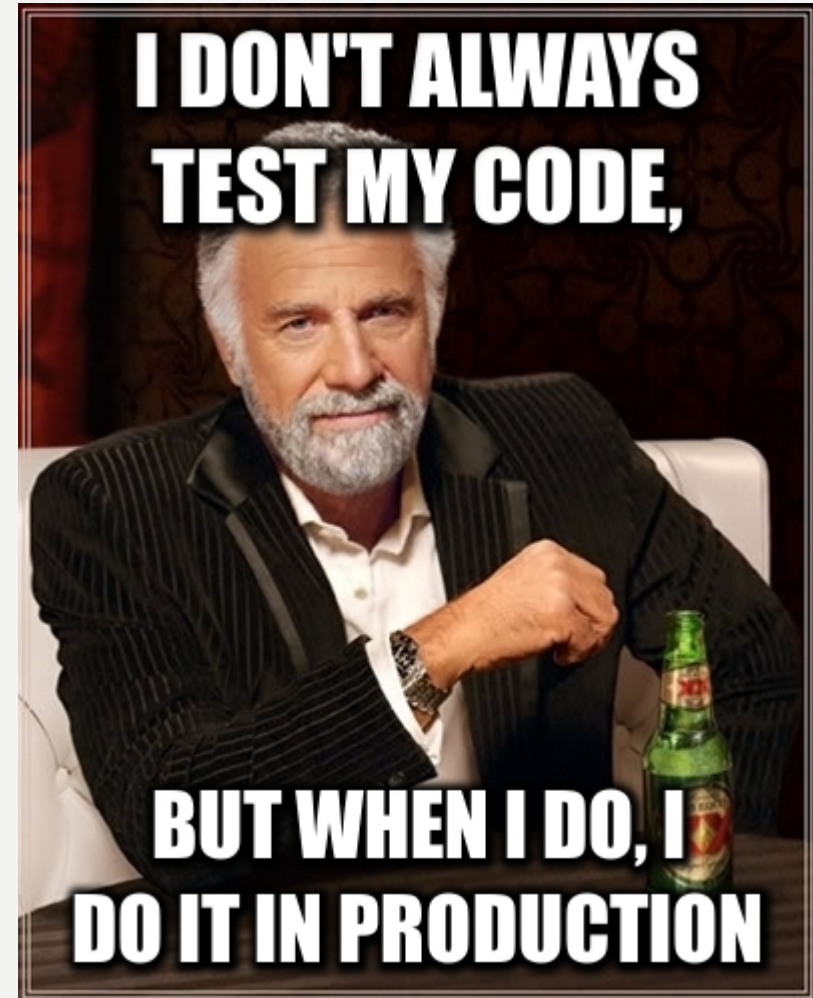
# HOW ARE INTEGRATIONS MADE?

- How are they built? Who's involved, what skills do they need?
  - Stakeholders from the relevant organizations are key (librarians, other library staff, HR, Finance, Facilities, CIT, CUL-IT, external vendors and consortia ....)
  - Skills needed
    - Business analysis – requirements gathering and negotiating scope
    - Programming, database design, network design, IT security, specific integration software tools
    - Collaboration, patience, and diplomacy



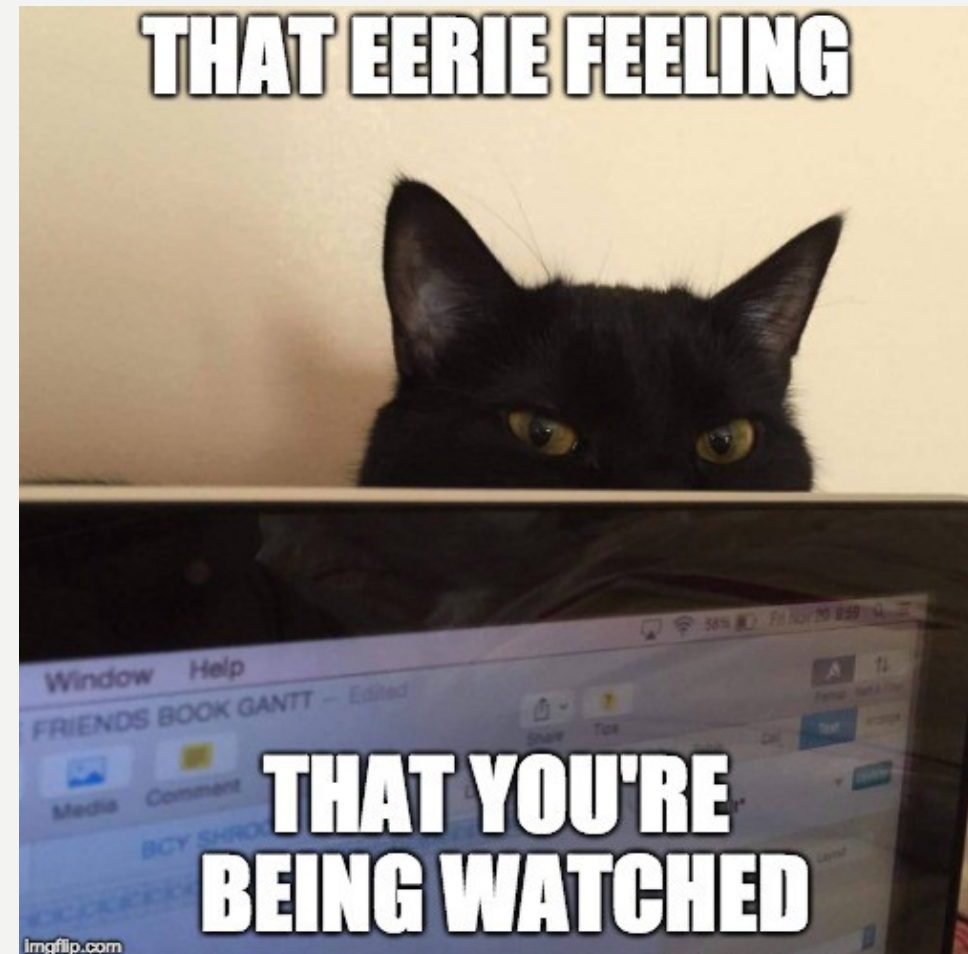
# HOW DO WE TEST INTEGRATIONS?

- Unit Test vs Integration Test:  
<https://www.youtube.com/watch?v=0GypdsJulKE>



# MONITORING INTEGRATIONS

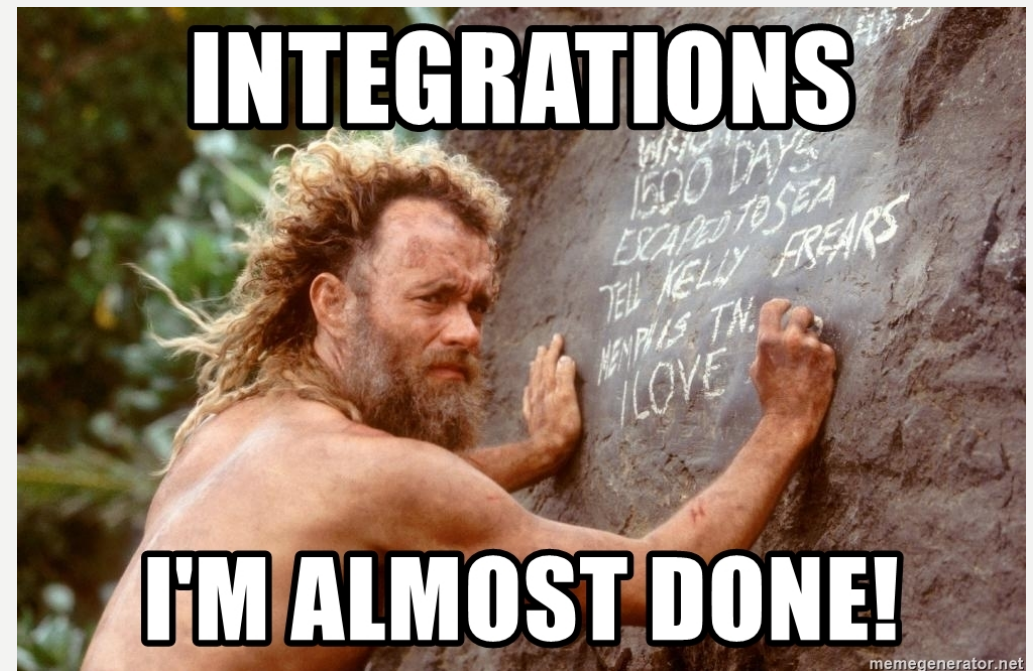
- Monitoring, alerts, logging, similar to other applications
- How detect and fix problems?
- What kinds of problems?
  - Connectivity between systems
  - Unexpected data or software errors
- Integration design can reduce errors
  - Middleware pub/sub can be asynchronous: store the converted data in a temporary middle space, then the subscriber periodically polls for updates. Usually a stable design.
  - Real-time (synchronous) integrations require constant connections, which can break sometimes = more fragile





# PROGRESS AND TIMELINES

- SSO – 100% complete
- Users/Patrons – 80% complete, targeting December
- Borrow Direct: a lot of analysis underway, aiming for Dec - Jan configuration / testing
- KFS / Bursar: aiming for Jan - Feb dev't
- Annex / Caiasoft: an "RI" top priority for several FOLIO libraries. Timelines being worked out; Caiasoft has said it won't take a lot of time to implement
- Just yesterday, great progress on BD and Caiasoft via productive Zoom calls with the respective vendors





# DISCOVERY & ACCESS HISTORY

- Project started 2012, went live in 2013
- Goals of D&A were:
  - To take control of user experience in the catalog after many years of unhappily using third party systems.
  - To upgrade-proof the user experience by divorcing it from our LMS

The screenshot shows the Cornell University Library Catalog interface. At the top, there is a search bar and navigation links. The search results section displays a table of items with columns for #, Subject Heading, Author, Title, and Date. The first two items are highlighted with red background colors.

**Database Name:** Cornell University Library  
**Search Request:** Subject Browse = library science  
**Search Results:** Displaying 1 through 50 of 1678 entries.

Search for: library science    Search by: Title    Quick Limit: None  
 50 records per page    Submit    Reset

previous 1 51 101 151 201 251 ... 1651 next

Sort by: [dropdown]    Post Limit

#	Subject Heading	Author	Title	Date
<input type="checkbox"/> [1]	<a href="#">Library science.</a>		20 shi ji Zhongguo tu shu guan xue wen ku / Chen Yuanzheng, Song Anli, Li Wanjian zhu bian.	2014
<i>Library Location: Kroch Library Asia    Call Number: Z665.2.C6 A16 2014    Status: See record for details</i>				
<input type="checkbox"/> [2]	<a href="#">Library science.</a>		21 shi ji tu shu guan : fa zhan yu bian ge / Zhongguo tu shu guan xue hui bian.	2000
<i>Library Location: Kroch Library Asia    Call Number: Oversize Z665.2.C6 Z46x 2000 +    Status: Not Charged</i>				
	<a href="#">Library</a>		21 shi ji Zhongguo tu shu guan jian she yu fa zhan / [Zhongguo tu shu guan xue	.....

# WHAT WON'T CHANGE

- Almost everything
- Record access URL's will remain the same, using the Voyager bib id, which is migrating to Folio, not the longer Folio-native UUID identifier
- Item statuses are structured very differently in Folio than Voyager, but may actually be close to how we use them in D&A now.

The screenshot shows a Folio record page for 'Acta meteorologica sinica; translated titles and abstracts from volume 27 (1956) through volume 35 (1965) [by] N. H. Ng. Translation made by Oriental Science Library, Research Language Center, Emmanuel College.' The page includes a table of holdings, administrative data, and a mode of issuance section.

**Holdings: Wason (Annex) > + Z6684.C5 N57**

Item: barcode	Status	Material type	Enumeration	Chronology	Vol
31924021457282	Available	book	-	-	-

**Holdings: Mann (Annex temp) > QC851 .A18**

Item: barcode	Status	Material type	Enumeration	Chronology	Volume
-	-	-	-	-	-

**Administrative data**

Record last updated: 6/24/2020 9:49 PM

Instance HRID	Source	Cataloged date
1141360	MARC	-
Instance status term	Instance status code	Instance status source
-	-	-

status updated -

**Mode of issuance**  
unspecified

Statistical code type	Statistical code	Statistical code name
-	-	-

# WHAT MAY CHANGE

- An improved API for patron circulation data should greatly improve MyAccount performance for patrons with large numbers of items checked out.
- A similar improvement for Requests efficiency is likely
- Items in Folio can have “On Order” status. If we use the feature, we may be able to allow requests for ordered materials.
- Folio will be able to track preferred pickup locations for each patron, allowing minor streamlining of the requests patron interface.

# PLEASE MAKE SUGGESTIONS

The Folio migration will create some significant challenges for the D&A team to implement. But it will also create opportunities for functional improvements. If your work in Folio has made you aware of opportunities, it's not too soon to let us know. We'll get it on the table so it doesn't get forgotten.

