



Agile Skunks

...

Interdisciplinary collaboration in support of digital research outputs



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DSS Equity, Diversity, and Inclusion Guidelines

- We will not speak for others, and we will not ask someone else to speak for others.
- We will practice active listening and listen more than we individually speak, paying attention to how much space we take up in the room (or virtual room).
- We value everyone's voice and encourage everyone to speak up.
- We will not become defensive when someone shares the effect our communication has on them.
- We will respect people's names and gender pronouns.
- We will give credit where credit is due.
- We are open to social media use in DSS interactions, but we will ask before mentioning others in the room or sharing photographs, and we will respect people's decisions.

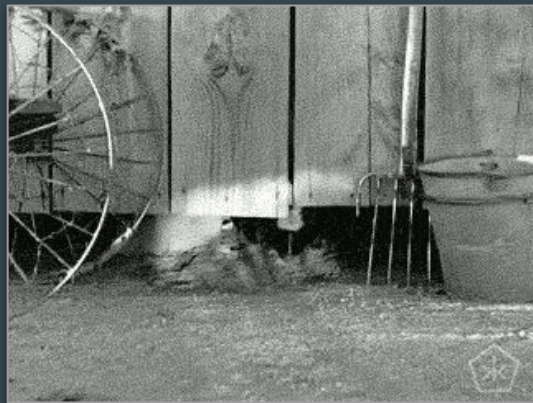
A story in three parts . . .

- I. Project origins
- II. Project progression
- III. Lessons learned so far



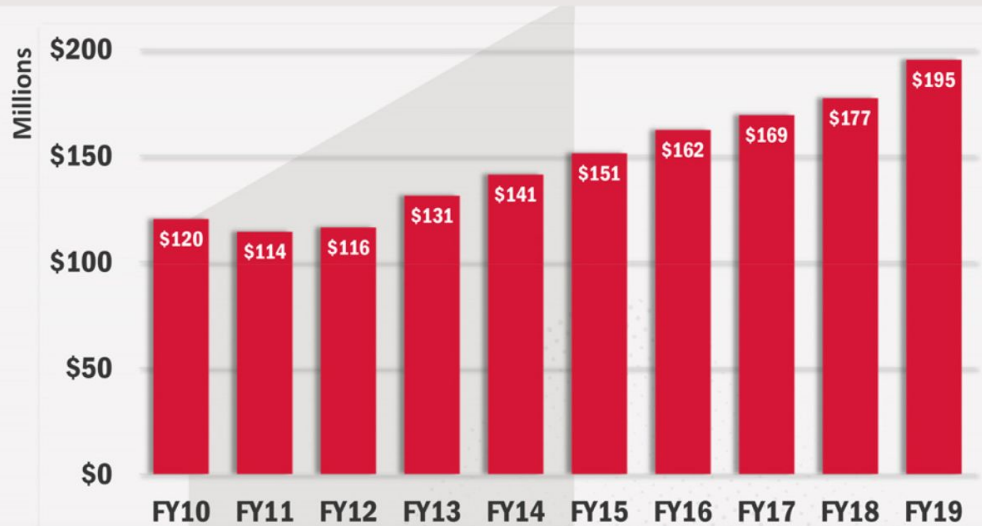
tony blake, CC0, via Wikimedia Commons

I: Project Origins





Total Research Expenditures – NSF-Reported



UH Libraries' Sponsored Projects Program

PROJECTS

[View all >](#)



Finding Connection in
Ancient Syria



Teaching Black
LGBTQIA+ Migrant
Project



1771: Genres and
Temporalities in Four
Cities



National Women's
Conference, 1977-2027



Russian War Letters

Lacking foundational elements and *conditions* to sustain what
is funded and produced in partnership with the Libraries

Uh-oh...

Main challenges faced:

- Organizational rigidity: existing teams, workflows, and cultural norms did not allow for cross-domain collaboration in research support
- Cultural skepticism: living digital research not seen in the same way as other research materials that get accessioned, preserved in the Libraries

What is our library's relationship to the research we're co-creating? And how can our organization self-organize to meet the demands of that relationship?

At the professional level . . .

ACRL Research Planning and Review Committee

2020 top trends in academic libraries

A review of the trends and issues affecting academic libraries in higher education

Academic Librarians as Knowledge Creators

December 5, 2014

Peer-Reviewed Article

Librarians as Partners: Moving from Research Supporters to Research Partners

Amalia Monroe-Gulick, Megan S. O'Brien, and Glen White

Inspiration for practical application . . .

Original Articles

Skunks in the Library: A Path to Production for Scholarly R&D

Bethany Nowvskie

Pages 53-66 | Published online: 25 Jan 2013

Download citation <https://doi.org/10.1080/01930826.2013.756698>

In order to sustain a relationship with the research we help create, we have to shift our relationship with technology infrastructure and with one another interdepartmentally

Social Interoperability in Research Support:

Cross-campus partnerships and the university research enterprise

Rebecca Bryant, Annette Dortmund, and Brian Lavoie



II: Project progression



Our project team

- Taylor (Digital Research Services)
 - Reid (Digital Research Services - formerly Liaison Services)
 - Claude Willan, Director of Digital Humanities Services (Digital Research Services)
-
- Anne Washington, Coordinator of Metadata Services (Metadata & Digitization)
 - Bethany Scott, Coordinator of Digital Projects (Special Collections)
-
- Sean Watkins, Lead Repository Developer (Library Technical Services)

Facing a puzzle

Main challenges:

- Navigating cultural rigidity & skepticism
- Framing the work for supervisors
- Getting buy-in from colleagues, lacking an “acceptable” path or way to start the work

Do it first, beg forgiveness later. . .



Greg Schechter from San Francisco, USA, [CC BY 2.0](#), via Wikimedia Commons

Starting with what we knew . . . and learning it wasn't near enough

- Containerization “primer”

One-pager that collected our thoughts, defined concepts, articulated connections to traditional library mission/responsibilities

- Container specs & landscape review

Understanding what services are offered at other libraries, and who is offering services

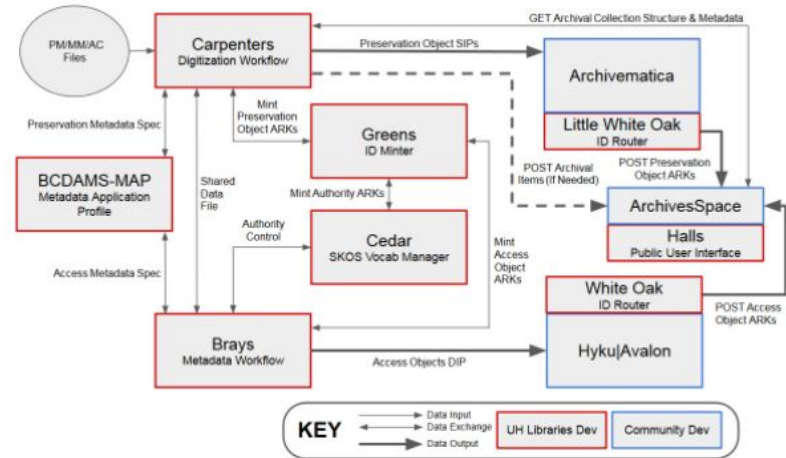
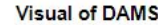


<http://www.thoseamazinganimals.com/cops-find-skunk-with-cup-stuck-on-head-see-what-happened-next/>

Needed: a tangible, accessible use case . . . and its developer

- Learning about BC DAMS
- Drafting a summary of actions to bring in Lead Developer

Adding interdisciplinary
expertise to the team
complicated our mission in the
way we needed it to.



List of DAMS components for container

- Carpenters
- Brays
- Greens
- Cedar
- BCDAMS - MAP

Situating the team in the library and claiming its stake

Summary and pilot proposal for library stakeholders:

- Communication with our supervisors
- Careful crafting
- Learning our shared history



Applying a flavor of Agile development

- Created structured goals, roles, and responsibilities
- Technological development and week-to-week tasks
- Built-in flexibility and ongoing evaluation
- Collective, consistent shaping



Creating and maintaining shared spaces

- Adopting ways of capturing and organizing our sense-making
- Critical for iterative design and sustaining one another's engagement over time



Vision board

A	B	C	D	E	F	G	H
Vision	What is the purpose for creating this product?			To preserve and archive/share born digital material, to document the process and requirements.			
	Which positive change should it bring about?			Capacity to establish collaborative workflows and shared responsibilities around preservation and archiving/sharing of born digital material. Developing ways of working collaboratively across departments.			
Target Group		Needs		Product		Business Goals	
Which market or market segment does the product address?		What problem does the product solve?		What product is it?		How is the product going to benefit the compar	
Who are the target customers and users?		Which benefit does it provide?		What makes it stand out? Is development feasible?		What are the business goals?	
Current and future users of the content including: Inhouse: The Development team, Preservation Coordinator, IT Services at different levels, Administration --- For Researchers: Developers, PI and research team, new external researchers, other stakeholders		The need to establish an understanding of preservation and archiving/sharing of software and born-digital material at UH libraries given our current resources and the technical and functional requirements of the needs of the developers/researchers. This is the first step to preserving components of a software environment, to document a collaborative process of structuring, packaging, documenting, and access.		A preserved package of a software application with documentation and access considerations. This has not been done before at the library. We think that it is feasible because we have the technical, and functional resources, the curiosity to pursue this pilot, and the need to do this for future use cases both internally and externally.		This will give us a better understanding of the process of preserving and archiving/sharing born digital material for future cases both internally and externally. Business Goals 1. Successfully structure, package, document, ingest, and make accessible, born digital material. 2. Document the process including, intake requirements, packaging specs, generating metadata, minting a DOI/ARK, ensuring access.	

Product backlog

1	Epic	Story	Notes	MoSCoW	Prior
2	Preservation	Determine systems of record	versions of files, types of files within a record, identifying where compo	Must Have	1
3		Determine Use Cases		Must Have	1
4		Establish Project Summary for Brays App	Brays App - establishing for each use case	Must Have	1
5	Preservation	Determine requirements for package structure/content (data modeling)	Brays App - considering for each use case	Must Have	1
6	Preservation	Ingest into archivematica - processing configuration		Must Have	1
7	Preservation	Determine identifiers for preservation	ARKs vs. DOIs - understanding industry standards and deciding how v	Must Have	1
8	Access	Determine identifiers for access	ARKs vs. DOIs - understanding industry standards and deciding how v	Must Have	1
9	Access	Mint DOIs or ARKs	Need to research and consider DOI vs ARK first	Must Have	1
10	Preservation	Preservation Metadata	for the preservation package - Bethany - archivematica	Must Have	1
11	Access	Method for retrieving a package	Similar to making discoverable - but this actually gaining the object - c	Must Have	1
12	Preservation	Workflow for preservation	this is an end result - other stories are components of this larger story	Must Have	1
13	Access	Workflow for access	this is an end result - will align with the options available, and may cha	Must Have	1
14	Access	Determine requirement(s) for access metadata	may be dependent on systems used for access	Must Have	1
15	Access	Compile and outline options for access	outcome of the story to have: platforms, method	Must Have	1
16	Access	Establish Citability	will have specific contextual aspects to researchers	Must Have	1
17	People-facing	Report findings to admin and stakeholders	Outline needed resources - report / request	Must Have	1
18	Preservation	Characterization / list of the contents of the package	something we generate	Should Have	2
19	Preservation	Recommendations of contents for file level documentation	researcher provides the content - we outline	Should Have	2
20	Preservation	AIP - Naming conventions	not needed for initial testing but important long term	Should Have	2
21	Infrastructure	Sustainability strategy	long-term feasibility - future scope (could be a policy; could be for adm	Should Have	2
22	People-facing	Develop standard MOU with users	short document that aligns roles of everyone involved - developing sta	Should Have	2
23	Preservation	Transfer Policy	Clause build into standard MOU (need to look into policies related to d	Should Have	2
24	People-facing	Sunset agreement (of research object)	Clause build into standard MOU	Should Have	2
25	People-facing	Questions for researchers for needs - Intake	Will take multiple use-cases to refine - lower priority - needs to happer	Should Have	2
26	Outreach	Methods for informing faculty and administration	this is the here is what we offer - channels of communication to reach	Should Have	2
27	Outreach	Marketing material - information about getting started	communicating what this is and how one gets started	Should Have	2
28	Outreach	Messaging to communicate relevance - credit	this is the why you should be doing	Should Have	2
29	Access	Ways to make things discoverable	Discovery layer for preserved outputs; will we cross-list in multiple sys	Could Have	3
30	People-facing	Service Description	Mirror the MOU - will come post - development of other aspects	Could Have	3
31	People-facing	Reconcile timing with project management needs	Later in the process - coming in with Service Description, MOU Marke	Could Have	3
32	People-facing	Integrate service providers with project planning	Later in the process - coming in with Service Description, MOU Marke	Could Have	3
33	People-facing	Researchers Faculty and Staff - Use case forms	further differentiate methods software vs. digital objects	Could Have	3
34	Preservation	Explore tiered storage / preservation options	informed by the testing that we do - later on in the process	Could Have	3
35	Preservation	Create revision to Digital Preservation Policies	To address software preservation and other new changes that have h	Should Have	

+

Backlog
Sprint 1 Tasks
Sprint 2 Tasks
Sprints

Systems of record document

- Currently available systems and features table
- Currently unavailable, but potentially useful systems table
- Pros and cons for each system
- Long-term sustainability concerns for each system
- Policy considerations
- Location of glossary



Glossaries (we actually have several)

Glossary

Access: The ability, permission/right, and means to locate, display, obtain, determine availability of or make use of a digital asset, or information about that resource

Archival Information Package (AIP): AIPs consist of Content Information and the associated Preservation Description Information (PDI), which is preserved within the digital preservation Repository

Citability: The ability for content to be distinguished as a unique entity through the use of a persistent identifier- information about the resource is available to others. Upon access and reuse this information about the content can be communicated in relationship to new output.

Containerization: encapsulating or packaging up software code and all its dependencies so that it can run consistently and uniformly on different infrastructure.

Digital Preservation: The whole of the activities and processes involved in the physical and intellectual protection and technical stabilization of digital asset through time in order to reproduce authentic copies of these resources.

Dissemination Information Package (DIP): DIPs are derived from one or more AIPs and received by the consumer in response to a request to the digital preservation repository.

Identifiers: A unique, permanent string of characters and/or URL that serves to specifically identify an object in a particular context.

Future use cases, human and technical

Use cases/stories

As a PI - I need the libraries to securely host, preserve, and provide enduring access to my digital output

As a PI -

I need the libraries to provide guidance around documenting my work so that I can open and use my software in the same way that I did

As a PI - I need the libraries to help me make my digital output discoverable and citable by others

As a PI/Developer/Researcher/new user - I need the libraries to help me create a package(s) that includes all the important components and relationships, including clear and detailed documentation, to execute my software in the future within a given environment

As a PI/researcher/new user - I want to be in compliance with funder regulations, journal mandates, and university policy regarding preservation and sharing of my software.

As a Developer - I want to be able to store source code in a reliable way so I can maintain historical knowledge

As a Developer - I want to be able to ensure source code is maintained unchanged over a long period of time, so that I can retrieve and restore services after a catastrophic event

As a Developer - I want to be able to share source code to other colleagues, so that I can help support open source initiatives and provide community knowledge

As a Developer - I want to be able to store application binaries/scripts in a reliable way, so that I can maintain historical knowledge

As a Developer - I want to be able to ensure application binaries/scripts are maintained unchanged over a long period of time, so that I can retrieve and restore services after a catastrophic event

define these better.



Taylor Davis-Van Atta

9:10 AM Nov 5



note that some of these PI use cases don't necessarily need local infrastructure/workflow development, but could be addressed by building a consultation service (i.e. they probably don't need the entire team to develop)



Reid Boehm

10:04 AM Nov 5

+1



Sean Watkins

2:44 PM Nov 5



Is this for preservation or access? This could be so broad that it could be helpful to break this up to address multiple parts. What's the motivation for each persona?



Taylor Davis-Van Atta

12:49 PM Nov 2



This is the "mazerati" ---- how do personas relate to stories?



Reid Boehm

8:44 AM Nov 3



Bringing researchers to the table

- Protecting the project against insularity and bad assumptions
- Technical and functional requirements of their outputs
- Researcher roles in future stewardship of their projects
- Application of this service to grant support

It is essential that we consistently check our own assumptions, often by engaging researchers and asking them questions.

Back at the professional level...

- Ground up vs. committee down
- Skunk works model of service development
- Building in isolation
- Direct involvement of researchers: constant reframing towards co-creating research services

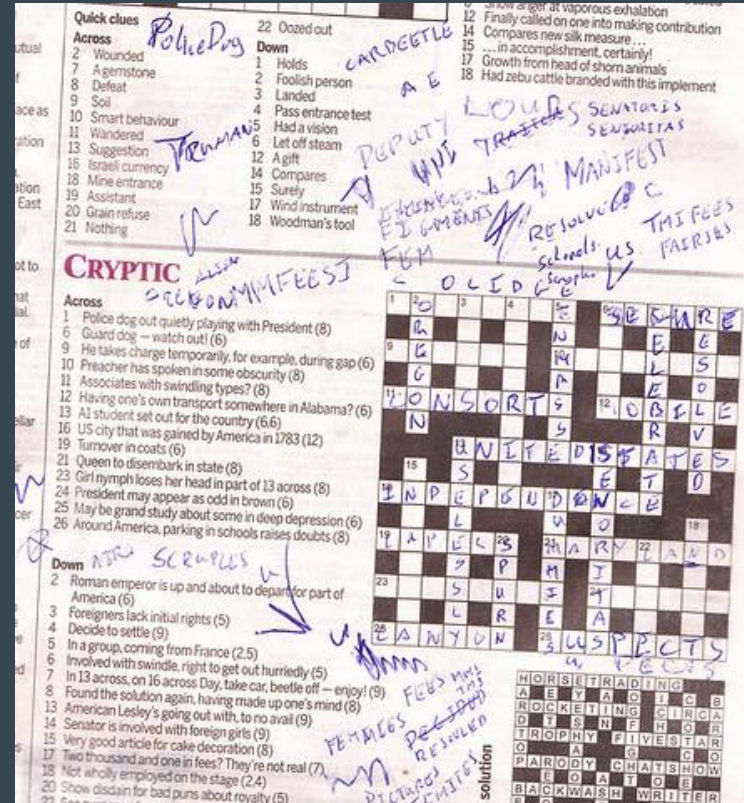
The committee-down structure tends to uphold a process of service development in isolation from the communities they are meant to support.

III: Lessons learned so far



Researcher involvement is a keystone to understanding institutional context

- Shifting nature of researchers' realities
- Co-creating services echoes co-creation of research
- Gaining a holistic picture of shared issues on campus



An iterative approach to campus silo-busting



Dave Sizer CC BY 2.0

Research service development depends on concerted technological development

- Thinking of research services as solely skills-based limits their potential
- Ongoing relationships need a more integrated model for conversation

The human and technological infrastructure aspects of research service development cannot be pursued separately

Experimentation and failure in the library is a good thing!



This example of supporting digital research outputs is just one touchpoint

- Change is difficult
- Leverage opportunities to question how we organize and how we think through problems
- Our continued process is an indicator of success

Thank you!

Shared Materials Referenced

- [Container Primer](#)
- [Specs Spreadsheet](#)
- [Landscape Review](#)
- [Summary Overview - for Lead Developer](#)
- [Summary and Pilot proposal for Library Stakeholders](#)



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