

Digital Project Planning & Data Curation: IU Bloomington Libraries' Scholars' Commons

Analysis of Digital Project Planning Consultations,
Fall 2014 & Spring 2015: by Meridith Beck Sayre,
CLIR Data Curation Postdoc for the Humanities and
Michelle Dalmau, Head of Digital Collections
Services, 7/15/2015

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Abstract

This report provides an overview of digital project planning and data curation needs demonstrated by Indiana University Bloomington faculty, students and staff as well as preliminary recommendations for ongoing successful support of activities in digital project planning and data curation. Based on the analysis of consultation log data and notes captured during the Fall 2014 and Spring 2015 semesters, we have developed a better understanding of digital scholarship requirements, including discipline-specific needs and stages of project development. Of the 45 total consultations focusing on digital project planning, 40 were unique individuals concerned with 35 discrete projects.

Of the 40 individuals assessed:

- 38% represented graduate students (masters & PhDs)
- 35% represented faculty (assistant, associate, and full)
- 15% represented staff
- 8% represented affiliated researchers or lecturers
- 5% retired faculty

The broader disciplinary breakdown for 40 individuals assessed are as follows:

- 37.5% Humanities
- 25% Information & Library Science (most of these individuals were working on humanities-related projects)
- 15% Social Sciences
- 7.5% Sciences
- 10% Library units

We have identified three project stages: 1) conceptual, 2) beginning (early design and planning), and 3) advanced (some level of implementation has been achieved). Of the 35 discrete projects assessed, 54% of these are in the conceptual stage; 31% in the beginning stage and 14% are in the advanced stage. Further analysis revealed a set of recurring questions and needs per project stage as explained in the "Analysis of Common Questions and

Needs” section of this report (p. 6). Although the data set for this analysis is relatively small and impacted by external factors associated with the opening of a new space and the re-grouping and re-presentation of existing services in support of scholarship, three primary recommendations emerged: 1) expand digital project planning documentation for scholars including templates for project charter and data management and partnership agreements, 2) adopt a suite of commonly requested tools and technologies, including more dedicated technical support and development for these tools and technologies, and 3) ramp up data curation awareness as part of the Scholars' Commons programming.

Introduction

This report presents an analysis of the statistics and notes kept by members of the Indiana University Bloomington (IUB) Libraries' Digital Collections Services (DCS) department—Michelle Dalmau, Nicholas Homenda, and Meridith Beck Sayre—who consulted with scholars and staff on issues related to digital project planning from September 2014 until early June 2015. This period represents the first two semesters that the Scholars' Commons space was open.

The goals of this report are to identify precisely what kinds of scholars are seeking out digital project planning expertise, what tools and support they need and frequently request, and how to strengthen DCS's consultation workflow and resources. In addition, this report provides recommendations for areas of future programming in the Scholars' Commons and staff partnerships that can bolster consultation services for digital project planning.

Defining the Audience

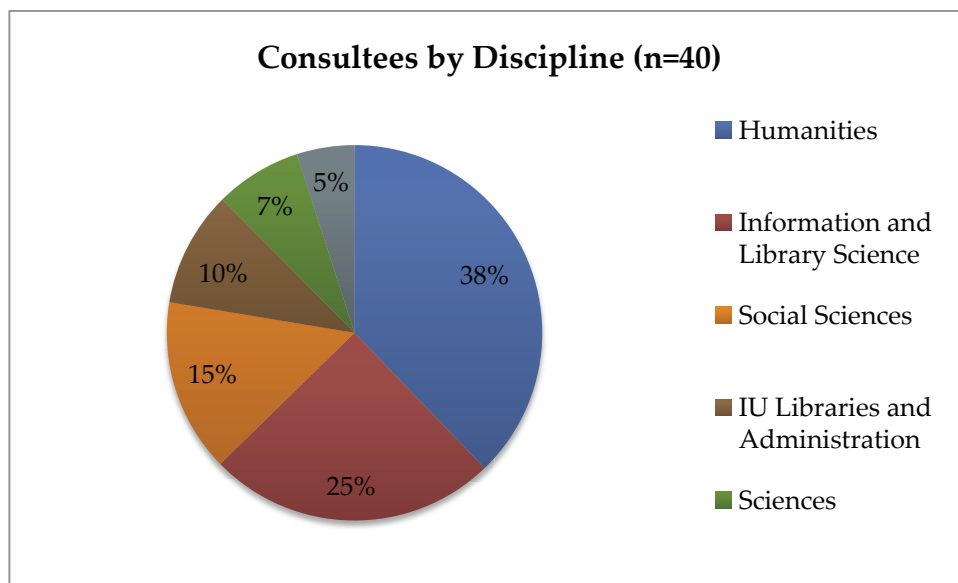
Forty individuals consulted Digital Collections Services regarding thirty-five discrete projects from September 2014 to early June 2015. This number reflects consultations that only happened in the Scholars' Commons, and excludes follow-up email consultations and individuals who consulted more than once on the same project. Consultees¹ were categorized into five major groups based on their status at the university: graduate students, tenure-track faculty, staff, affiliated scholars, and retired faculty:

- Graduate students at both the master's and doctoral level accounted for 38% of the consultees.
- Tenure-track faculty, including associate, assistant, and full professors, accounted for 35% of consultees.

¹ Due to varied definitions of the term, the word “consultee” is used to identify those who consulted with Digital Collections Services.

- Staff, including both library staff and employees affiliated with Indiana University centers or units, such as the Office for the Vice President for International Affairs or the Indiana Geological Survey, accounted for 15% of the consultees.
- Affiliated scholars, including adjunct lecturers and non-tenure track researchers, accounted for 7.5 % of consultees.
- Retired faculty accounted for 5 % of the consultees.

Members of the IUB community who sought digital project planning consultation with Digital Collection Services were also grouped according to the broad disciplinary or institutional categories that they represented:



- Humanities scholars represented 37.5 % of the consultees. This category is defined as faculty, graduate students, or affiliated scholars primarily working within a humanities discipline, such as History or English.
- Information and Library Science professionals represented 25% of the consultees. This category was not included under the humanities or social sciences, as it does not easily fit into either classification; moreover it is useful for the purposes of this report to differentiate this class of consultees.
- Social Scientists represented 15 % of the consultees. This category was defined as faculty, graduate students, or affiliated scholars primarily working within a social science department, such as Sociology or Anthropology.
- IUB Libraries or Administration staff represented 10 % of the consultees. This category was defined as staff affiliated with the IUB libraries or another IUB department or unit.



- Scientists represented 7.5 % of the consultees. This category was defined as faculty, graduate students, or affiliated scholars primarily working within a science department, such as Biology or Chemistry.
- Other / uncategorized scholars represented 5% of the consultees. Two of the total of forty consultees were not grouped under the above categories: one scholar was loosely affiliated with IU, but the exact nature of their position and rank was unclear, while the second scholar was a retired faculty member from another institution (California State University, Long Beach).

Summary

Academic scholars at either end of the career spectrum—graduate students and tenured faculty—overwhelmingly represented the majority of our audience (73%). These numbers in consideration with the content of their inquiries suggest that the DCS team is particularly well-positioned to help early-career scholars who want to acquire digital project skills and experience and advanced scholars who are investing time, labor, and funding into sophisticated digital iterations of their research.

The Digital Collections Services team consulted with scholars and staff from a wide variety of academic disciplines and administrative units. Humanists and Information and Library Science professionals, however, represented well over half of the consultees (62.5%). Moreover, the consultees from Information and Library Science were almost exclusively working on projects related to the humanities, as opposed to research that would be related to the social sciences or sciences. **Our current data suggests, therefore, that there is a critical need to support digital humanities.**

Defining the Projects

The DCS team consulted on thirty-five discrete projects from the fall of 2014 to spring 2015 and the following analysis groups the projects into the three levels of development—conceptual, beginning, and advanced—in order to more effectively understand our audience:

1. Conceptual Stage:

Projects in the conceptual stage are in the very initial, planning stages of development. The consultee has a vision, but there has been little to no work done toward a digital outcome. Data may have been collected or research may have begun, but there is currently no digital iteration of the material. At this stage, the project often still needs funding and a labor source.



Over half of the projects that the DCS team consulted on were in the conceptual stage (19 of 35; or 54%).

2. Beginning Stage:

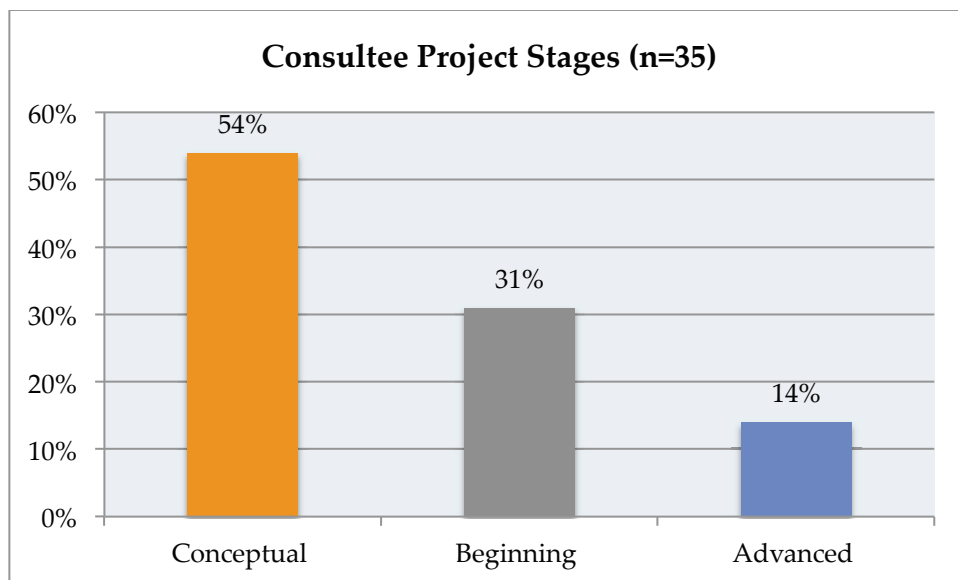
Projects in the beginning stage have a vision, as well as some plan or design in place. Work toward a digital outcome has begun. This may include, for example, the digitization of research data or preliminary work toward a website. At this stage funding might have been applied for or secured, however consultees may also have implemented the project in order to show proof of concept for grants and are currently unfunded.

Approximately one third of the projects that the DCS team consulted on were in the beginning stage (11 of 35; or 31%).

3. Advanced Stage:

Projects in the advanced stage have some sort of implemented digital presence or developed digital outcome. The collection of research data may be ongoing or completed, but it has been at least partially digitized and is available in some organized format. This may include, for example, an Omeka site or a Zotero bibliography. Projects in this stage may require ongoing development, migration, and maintenance, or they may be in need to be effectively archived.

The DCS team consulted on a minority of the projects that were in the advanced stage of production (5 of 35 projects; or 14%).



Summary

During the first two semester of consulting, the DCS team mainly consulted on projects in the very early stages of development. In many cases, these consultations were one-time events and further advancement of the project was dependent on securing funding, developing expertise, or forging partnerships. If, however, even a small number of these projects progress, DCS will likely consult on a much larger number of digital projects in the beginning stages next year.

Although projects in the advanced stage represented only 14% of the total projects, these consultations were much more frequent—more than one time—and intensive. This suggests that as DCS consultation for these advanced digital projects progresses, they will require increased DCS time and labor.

Analysis of Commons Questions and Needs

This section identifies the questions and needs encountered by the Digital Collections Services team, grouped into three categories: a) the most common or general needs that were consistently encountered in consultations, regardless of the consultee's rank, position, or the project stage; b) the specific questions and needs of humanities scholars, and social scientists and scientists; c) explicit questions and needs relating to the three defined levels of the project stage.

Most Common Questions and Needs

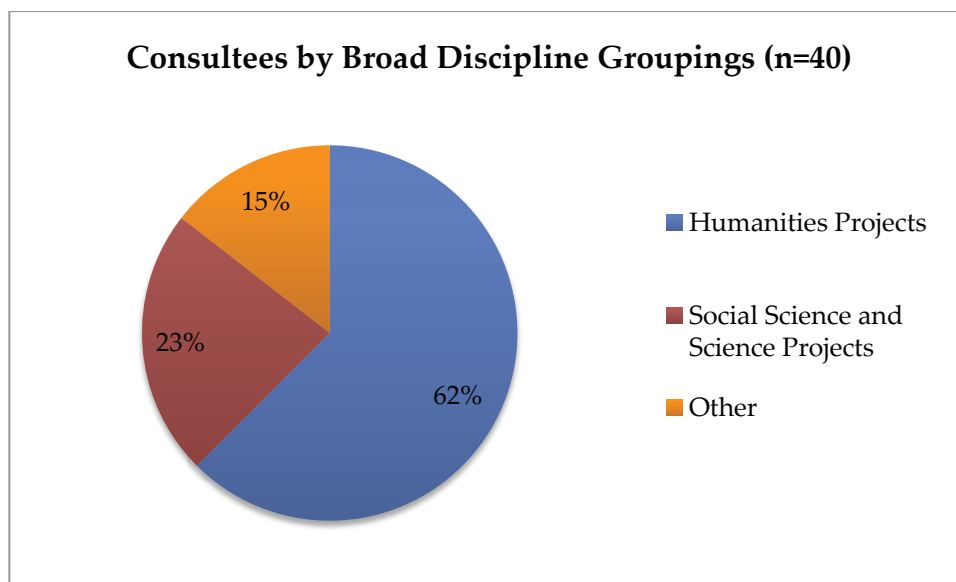
The Digital Collections Services team was frequently asked about the following four general issues:

- Digitization:
 - Basic questions regarding the initial digitization of data were frequent, including:
 - What resources and equipment, are available to perform digitization
 - How to digitize various types of data and media
- Funding:
 - Scholars and staff embarking on projects frequently asked about funding sources available to them, both internal and external to IU
- Learning and Involvement
 - There was significant interest—especially on behalf graduate students—regarding the current landscape of digital scholarship at IU

- There was general and frequent interest in workshops, lectures, internships, and other opportunities for consultees to get involved in or hear more about digital work on campus
- Data Curation:
 - All consultations incorporated some element of data curation issues throughout the various stages of the project lifecycle
 - Most consultees, however, did not have an explicit awareness of data curation as a concept

Specific Questions and Needs based on Discipline

The following section isolates the specific questions and needs of humanists and Information and Library Science (ILS) professionals as one group, and social scientists and scientists as another group. These two groups embody 85% of the scholars that DCS met with during its first two semesters of consultation and provide concrete examples of consultation scenarios. The “other” category primarily represents consultations that were not project-specific, such as ILS students coming in to interview us about digital librarianship for a class assignment.



Humanists & Information and Library Science Professionals:

Humanists and Information and Library Science professionals are considered together in this section because the latter group came to digital project planning consultations almost exclusively with humanities projects. Consultation data suggests that researchers working on humanities projects have a particular interest in obtaining advice on how to manipulate, analyze, and display their data in sophisticated ways. However, because these scholars were primarily in the early—or conceptual—phases of their projects, consultations emphasized funding

opportunities, first steps in digitization, skills acquisition, and project planning. There was less emphasis on long-term data preservation, archiving, and sharing because these issues were less immediately pertinent.

When in the conceptual stage, humanists and ILS professionals came to consult on a variety of topics, for example: Jennifer E. Maher, a Senior Lecturer in Gender Studies, and Dina Kellams, Director of University Archives and Records Management, are collaborating to explore ways in which the practice of “digital storytelling” serves as a pedagogical, research-probing, and outreach tool for scholars and libraries/archives. In addition to employing “digital storytelling,” Maher and Kellams imagined the creation of a multi-media exhibition on the history of reproductive rights at Indiana University using Omeka. The DCS team was actively involved in their preparation of a New Frontiers Experimentation grant for the proposed project. Maria Shardakova, an Assistant Professor in Slavic and East European Languages & Cultures, met to discuss her Russian Dialect Project, in which she envisions audio and video recordings of Russian speakers world-wide layered onto an interactive map. This particular project presented some interesting logistical challenges with crowdsourcing recordings from various regions and intellectual challenges concerning vetting. The DCS team—along with Theresa Quill—advised Shardakova to pursue a New Frontiers Experimentation grant to create a proof-of-concept, which would give her research team, in consultation with DCS, the ability to explore mapping tools like CartoDB or Story Maps (ArcGIS) and SoundCloud for crowdsourcing recordings.

Humanities scholars working on advanced projects, however, had more intensive consultation needs, in terms of both time and technical issues. Konstantin Dierks, an Associate Professor in the Department of History, met with DCS staff in person five times and had numerous email consultations over the course of the fall and spring semesters for his “Globalization of the United States, 1789-1861” project. In addition to various data curation needs, such as the consistent capture and compilation of descriptive information, Dierks’ project had several highly-technical challenges; including georectification of historical maps that reflect the ever-changing world between 1789 and 1861, the integration of historical maps and compiled data sets into an interactive geospatial and temporal tool (Leaflet), and the need of a web publishing platform that would illustrate and provide contextual information about his research (Omeka). Dierks partnered with DCS a few years prior to the opening of the Scholars’ Commons as part of the Indiana University OVPR’s Collaborative Research and Creative Activity Funding and has continued his collaborations as part of another internal funding opportunity, New Frontiers Creativity and Scholarship grant. Dierks is already planning phase three of this project and plans to pursue an NEH Digital Humanities Start Up Grant this fall.

Social Scientists and Scientists:

Overall, analysis of the current consultations suggest that social scientists and scientists came in to discuss digitizing, archiving, and preserving previously collected data more often than options for manipulating, visualizing, or further analyzing that data.

Fabio Rojas, a tenured professor in Sociology, came to DCS with thousands of surveys and interviews from his research on the contemporary anti-war movement, which he wanted to digitize for preservation and archiving purposes. The DCS team worked with Kara Alexander, Digital Media Specialist, and Caitlyn Smallwood, Digital Imaging Specialist, to initiate a suitable digitization workflow—done by his graduate assistants in the Scholars' Commons Digitization Lab—and discussed the possibility of archiving his survey instruments in IU's institutional repository, IUScholarWorks, to complement the data he already deposited to Interuniversity Consortium for Political and Social Research (ICPSR) repository.

Gary Motz, Project Coordinator at the Center for Biological Research Collections at IU, consulted with us about several projects including the IU Herbarium Digitization Project, a large-scale digitization project that hopes to leverage OCR technologies for handwritten materials, the Paleontology Collection, and the Zooarchaeology Collection that utilizes 3D technologies for image capture. We discussed their use of the Specify database as their main data curation environment and a Sufia-based Hydra-Fedora technology stack being implemented by the IU Libraries, for preservation and access of digital images and metadata.

Common Questions According to Project Stage

1. Conceptual Stage:

- General Resource Availability:
 - What support is available through IUB Libraries?
 - What workshops are available through the Scholars' Commons?
 - What kind of digital scholarship is going on at IUB?
- Funding:
 - What funding is available to help implement and support my project?
 - Can DCS help to prepare or edit funding proposals?
- Digitization:
 - What equipment does the Scholars Commons' Digitization Lab have?



- How can I digitize X media?
- Implementing the Vision:
 - How do I start to develop a web project?
 - What tools and software do I need to implement this idea?
 - What technical skills and knowledge is required?
 - Is there help available? What does the library offer? Can I hire people?

2. Beginning Stage:

- Digitization:
 - How can I digitize this archaic/obsolete media?
 - My data has been digitized, but where does it go?
- Migration and Maintenance:
 - How can I migrate and update my previously digitized data?
- Preservation and Archiving:
 - How do I effectively store born-digital data?
 - Where can I put all my research? What storage options are available at IU?
- Tech Issues:
 - What web development environments or resources are available to me – are they free, for fee, and do I get technical support?
 - Which platform or tool should I use for geospatial visualizations?

3. Advanced Stage:

- Data Curation:
 - How can we consistently structure descriptive information?
 - What are the best practices for storage of data for both born digital and digitized data?
 - How do I approach versioning when I am constantly working with my data?
- Advanced Preservation Issues:
 - How to deal with mixed audio/visual files in terms of both preservation and presentation?
- Tech Issues:
 - How do I secure web development help?
 - How do I install and maintain (i.e., upgrade) open-source software solutions?
 - How can I extend out-of-box software functionality to do X, Y, Z?

- How do I migrate my content from WordPress to Omeka?

Recommendations

The following section offers three broad areas of recommendation for digital project planning and data curation in the Scholars' Commons: the development of comprehensive digital project planning documentation, the development of a suite of supported tools for digital humanities scholarship, and the cultivation of a data curation ethos on campus.

Develop Comprehensive Digital Project Planning Documentation

As Digital Collections Services consultations continue in the Scholars' Commons, it would be beneficial to develop comprehensive digital project planning documentation that details specific recommendations for efficient workflows that support best practices. This set of documentation presented as a toolkit would be a collection of standardized guides and forms designed to support the variety of projects encountered during digital project planning consultations—from boutique digital humanities projects to large-scale digitization projects—throughout their various stages of development.

Drawing on the model established at UCLA Library Special Collections², the documentation created by the Archives of American Art³, and building on the documentation created for the Scholars' Commons Digitization Lab, the following list includes areas where standardized documentation would be helpful for both the DCS team and their consultees:

Digitization:

- Continue to develop the “how-to” documentation for the Scholars' Commons Digitization Lab⁴

Project Conceptualization:

- Guide to Digital Scholarship Funding Sources⁵
- Partnership Questionnaire⁶
 - Designed to help determine if IUB Libraries will partner and provide sustained support

² <http://library.ucla.edu/special-collections/programs-projects/digital-projects-special-collections>

³ <http://www.aaa.si.edu/collections/documentation>

⁴ <https://wiki.dlib.indiana.edu/x/2AwFHw> (documentation in progress)

⁵ <https://wiki.dlib.indiana.edu/x/5goFHw> (documentation in progress)

⁶ https://www.library.ucla.edu/sites/default/files/Template_DesignQuestionnaire.pdf (UCLA template)

Project Planning:

- Project Charter Template⁷
- Expectations Checklist
 - Defines expectations for faculty input, library personnel contribution, etc.

Assessment and Evaluation:

- Expectations Checklist⁸ (expand our current Digital Project Planning checklist⁹)
- User Feedback Form

Support a Suite of Tools for Humanities Scholars

The DCS team and the scholars they consult with would greatly benefit from the establishment of a curated suite of well-supported digital tools tailored to humanities scholarship. Since well over half of the scholars attending consultation sessions were working on humanities projects in the conceptual stage, they frequently sought guidance on tool and platform selection, as well as skills acquisition and training. It is clear, therefore, that researchers need a collection of well-supported tools and the opportunity to learn how to use them. Similarly, the DCS team and other library staff would greatly benefit from honing their expertise to a limited assortment of Digital Humanities tools and fostering their reoccurring use.

The IUB Libraries already does an excellent job of supporting certain digital platforms and skills relevant to digital humanities scholarship, especially the exhibition platform, Omeka. Similar to the way the IUB Libraries currently supports Omeka, it would be advantageous to cultivate a suite of tools that supports digital bibliography, GIS and mapping, visualization, and audio/visual preservation and access. It is also strongly recommended that DCS develop this suite of tools in partnership with other IUB staff and units, including other library departments supporting digital scholarship like Library Technologies and Scholarly Communication, other digital scholarship centers on the IUB campus like the Institute for the Digital Arts and Humanities (IDAH) and Catapult, and central computing units like University Information Technology Services (UITS) Research Technologies.

1. Bibliography:

⁷ https://www.library.ucla.edu/sites/default/files/Template_ProjectCharter.pdf (UCLA template)

⁸ https://www.library.ucla.edu/sites/default/files/Template_SiteExpectationsChecklist.pdf (UCLA template) and https://www.library.ucla.edu/sites/default/files/Example_SiteExpectationsChecklist.pdf (UCLA example)

⁹ https://wiki.dlib.indiana.edu/download/attachments/520424664/planning_dig_projects_brainstorm_doc.pdf

Almost all humanities scholars have bibliographic needs because their research relies so intensively on multiple primary and secondary sources, as well as other forms of data. The ability to organize this data is a crucial first step in best practices for humanities data curation. The IUB Libraries should increase support of bibliographic software, such as Zotero. This would include providing workshops for graduate students and faculty, as well as ensuring that library staff—including reference desk staff and staff conducting consultations in the Scholars' Commons—have a solid foundation in the software.

2. GIS and Mapping

Numerous scholars expressed great interest in mapping their data in sophisticated ways. This is an area that the DCS team should increase their expertise in, but would benefit most from doing so in partnership with Theresa Quill, Social Sciences Data & GIS Librarian, and UITS' Research Analytics Geographic Information Systems team. In collaboration with these staff, it would be useful to determine a set of tools, such as CartoDB, TimeMapper, or Neatline for Omeka, that the Libraries, UITS, and IDAH could actively support and recommend.

3. Textual Visualization and Analysis

Scholars showed considerable interest in creating humanities projects that would ultimately display data in sophisticated ways. Most of these proposed projects, however, were in the conceptual stage, suggesting that there will be increased need for guidance on data visualization in the coming months. Since there are multiple platforms and tools available for scholars to preform various kinds of visualization, it is recommended that Digital Collections Services and Catapult determine a collection of user-friendly, open-access tools that the Libraries could actively support and recommend.

4. Audio and Video Preservation and Access

There is also a clear need for developing a workflow and recommendations for scholars working with audio and video material. Digital Collections Services would benefit from working with the Library Technologies and the newly hired Digital Preservation Librarian, Heidi Dowding, to implement a set of best practices for helping humanities scholars with A/V inquiries, focusing on curation, access, and preservation.

Foster Data Curation Ethos

One clear conclusion that the DCS team reached after two semesters of consultations is that promoting good data curation practices cannot be the responsibility of any one person or unit and needs to be part of the broader library culture. The establishment of the Data Management Working Group, lead by Jennifer Laherty, Head of Sciences, the newly hired Digital Preservation Librarian, Heidi Dowding, and the posting of the Research Data Management Librarian position are positive steps towards creating support and services for holistic data curation practices. The DCS team should continue to cultivate partnerships with staff outside the unit that also deal with data curation issues such as subject librarians, metadata specialists, technologists, and research administrators.

Beyond these initial steps, it is essential that the IUB Libraries continue to take into account the critical need of developing best practices for data curation in humanities research. Well over half of the digital projects that DCS consulted on were humanities focused and they all presented the potential for complex data curation issues that will require intensive problem solving. For the humanist especially, the concept of static content or the “finished project” is almost non-existent. Data curation services that we provide, along with related repository services, need to be mindful of the organic nature of humanities research data. As part of this analysis, DCS noted several notable characteristics of humanities research data and humanities research practices: 1) humanists tend to “create data” not just gather data, 2) some of this data is inherently structured (i.e., bibliographies), but most is not, 3) data created is often highly interpretative which has implications for sharing and re-use, 4) data creation or “readings” are often iterative and layered with implications for versioning and active working spaces, and 5) the process is as important as the product. **It is strongly recommended, therefore, that candidates for the Research Data Librarian position have significant humanities research experience.**

In order to more widely promote a data curation ethos on campus, it is also recommended that the IUB Libraries establish a yearly workshop and lecture series that brings top digital humanities and libraries scholars—such as Trevor Munõz, Associate Director of MITH as well as Assistant Dean for Digital Humanities Research at the University of Maryland Libraries or Bethanie Nowviskie, Director of the Digital Library Federation—to campus. Such a lecture series would not only encourage awareness across campus, but also bolster the programming and consultation services offered by the Scholars' Commons.

Appendix: Statistics for Digitization & Digital Project Planning Consultations and Scholars' Commons Digitization Lab (January 12 – June 17, 2015)

The Scholars' Commons Digitization Lab was officially up and running in late October 2014. By January 2015, Digital Collections Services developed logging mechanism for tracking visitors to the Lab, which only reflects usage during the time in which the Lab is staffed (10 am to 4 pm, Spring 2015) and (10 am to 1 pm, Summer 2015).

Between January 12, 2015 and June 17, 2015, DCS has logged 717 visitors (not necessarily unique, some used both the open scanning lab and the AV lab). Of the 717 visitors, 51 of them used the AV part of the lab; 30 had popped in to consult, and 628 used the main, open lab. Of the 628 using the open lab, 309 actually used the scanning equipment. **About 50% of the visitors we are logging are taking advantage of the specialized imaging and A/V equipment in the lab.**

In September 2014, DCS began tracking consultations held as part of the Scholars' Commons in the areas of digitization and digital project planning. Between September 16, 2014 and June 2, 2015, Digital Collections Services has logged 65 consultations for both of these areas. These 65 consultations reflect repeat visitors, but do not reflect ongoing consultations that make take place via email or in other meeting settings:

- 45 of the 65 consultations were for digital project planning
- 20 of the 65 were for digitization

Of the 65 who consulted, their status is as follows:

- 28 Faculty members
- 21 Graduate Students
- 6 Librarians
- 1 Undergraduate
- 10 Staff members

Departmental affiliations include:

- 3 Anthropology
- 1 Asian Studies
- 1 Archives of Traditional Music
- 1 Ballet (School of Music)
- 2 Biology
- 8 English
- 2 Center for the Study of Global Change
- 1 Central Eurasian Studies
- 1 Communication & Culture
- 2 Gender Studies
- 7 History
- 1 Indiana Geology Survey
- 13 Information & Library Science
- 1 IU International Office
- 1 IU Press
- 1 Kinsey
- 2 Lilly Library
- 2 Telecommunications (Media School)
- 2 Musicology
- 2 Polish Studies Center
- 1 Russian
- 1 School of Education
- 3 Sociology
- 1 GIS
- 4 Unknown