

Scholarly Commons Digital Humanities Needs Assessment Study

Final Report

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Executive Summary

The members of the Digital Humanities Needs Assessment Working Group have completed an analysis of current activities and future needs for digital humanities and digital scholarship-oriented research and teaching at the University of Illinois at Urbana Champaign. This study originated as an investigation into the particular practices and work of digital humanities researchers, and how the University Library could support the needs for digital humanities research, particularly via the resources and expertise provided in the Scholarly Commons. As the study progressed, it became evident that “digital scholarship” was a related area of research and teaching that needed to be addressed as well. The investigative goals of this study were to:

- Identify the digital tools and resources most needed by Illinois researchers;
- Identify the major barriers that exist for scholars in pursuing digital humanities research and potential solutions for them;
- And determine the role of digital humanities and digital scholarship in both research and teaching.

This study consisted of targeted interviews and a survey conducted over the course of 2016-2017 to gather information from the campus community to address these questions. This report delivers the findings gathered via the interviews and survey, and analyzed by the Working Group. We have identified thematic *Areas of Need* and also proposed *Recommendations for the Library*, which we highlight below with quotes and summary responses from the interviews and survey.

Literature Review

A recent survey tallied over ninety research centers and initiatives around the world that support digital humanities (DH) research, and the majority are associated with university campuses. ARL SPEC Kit 350 (May 2016) observed the trend for digital scholarship support to be centered in a single department, sometimes in a dedicated digital scholarship center, but with support for digital scholarship extending throughout the library. Despite the growing number of DH initiatives and support models for digital scholarship at institutions of higher education around the U.S. and world, few have conducted formal needs assessments on their campuses to ascertain the needs of researchers and other stakeholders. The professional literature that provide a strong guiding framework for this study include the report on the University of Colorado’s recent digital humanities needs assessment (Lindquist, et al., http://scholar.colorado.edu/libr_facpapers/32/) and the Ithaka S+R Sustaining Digital Humanities study and Implementation Toolkit (<http://www.sr.ithaka.org/publications/sustaining-the-digital-humanities/>). As the Scholarly Commons at Illinois is in its fifth year, and imagining updated services in such spaces as room 220 Library (the “collaboratory”), it is an opportune time to

reflect on the campus's needs for digital humanities (Hensley and Ball, <http://crln.acrl.org/content/78/3/155.long>).

Methods

This study originated in 2014 as an investigation into the particular practices and work of digital humanities researchers at the University of Illinois, and how the University Library could support the needs for digital humanities research, particularly via the resources and expertise provided in the Scholarly Commons. As the study progressed, however, it became evident that “digital scholarship” was a related area of research and teaching that needed to be addressed as well.

For the first phase of the study, Harriett Green, English and Digital Humanities Librarian and Interim Head of Scholarly Communications and Publishing, and Eleanor Dickson, Visiting HathiTrust Research Center Digital Humanities Specialist, conducted interviews with recognized digital humanities researchers at Illinois. From fall 2015 through spring 2016, they conducted a total of fifteen (15) interviews with University of Illinois faculty, administrators, academic professionals, and graduate students from multiple colleges and campus units—including College of Liberal Arts and Sciences, Illinois Program for Research in the Humanities, College of Fine and Applied Arts, and School of Information Sciences—with interest or active involvement in digital humanities research and teaching (see Summary of Responses below). The interview respondents were primarily from humanities disciplines and the interview protocol primarily focused on activities in digital humanities, due to the original intent of the study to explore support needs for digital humanities.

From the interview responses, the Digital Humanities Needs Assessment Working Group developed a survey protocol for the second stage of the study to conduct a campus-wide survey. Based on analysis of the interview responses and discussion among Working Group members, it was decided to expand the scope of the campus survey slightly larger to encompass ‘digital scholarship,’ the interdisciplinary area that includes digital humanities as well as other fields of computationally-driven research.

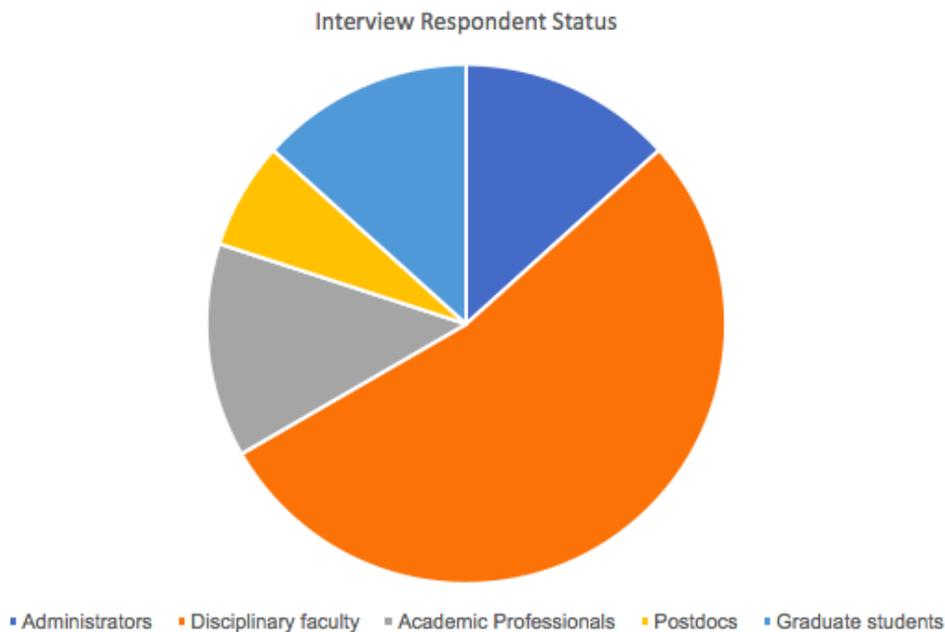
The Working Group administered a survey via Webtools that was sent to a random sample generated by the DMI of 5% of faculty and graduate students from the colleges and units of Liberal Arts and Sciences, Fine and Applied Arts, College of Media, and School of Information Sciences; as well as targeted sampling of known practitioners of digital scholarship on campus. The survey was open for two months from November 2016 through early January 2017, and gathered 55 responses. The respondents to the survey consisted of more even distribution across multiple disciplines in the social sciences, sciences, and humanities.

The survey defined “digital scholarship” based on the Association of Research Libraries SPEC Kit 350 definition: digital scholarship is the “use of digital evidence and method, digital authoring, digital publishing... and digital use and reuse of scholarship.” The type of research and

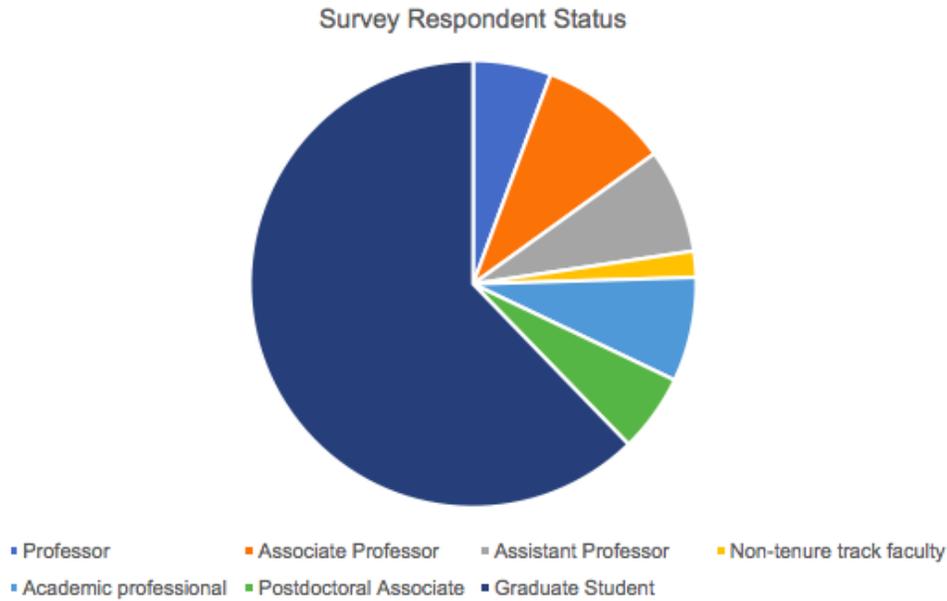
publication produced by scholars in digital humanities and digital scholarship include: “print and web-based text, video, audio, still images, annotation, and new modes of multi-threaded, nonlinear discourse.” (Association of Research Libraries, SPEC Kit 350: Supporting Digital Scholarship, 2016) We employed this term in our research protocols due to learning in the course of our investigation that “digital humanities” could be too limiting of a term. As the ARL definition indicates, “digital scholarship” is a more encompassing and inclusive descriptor of research practices with computational tools across disciplines in humanities and related to the humanities. Together, the interviews and survey explored the practices, expectations, and wishes of researchers engaged in digital scholarship at the University of Illinois.

Summary of Responses

Demographics



The demographics of the survey respondents are as follows:



Research and Teaching Practices with Digital Tools

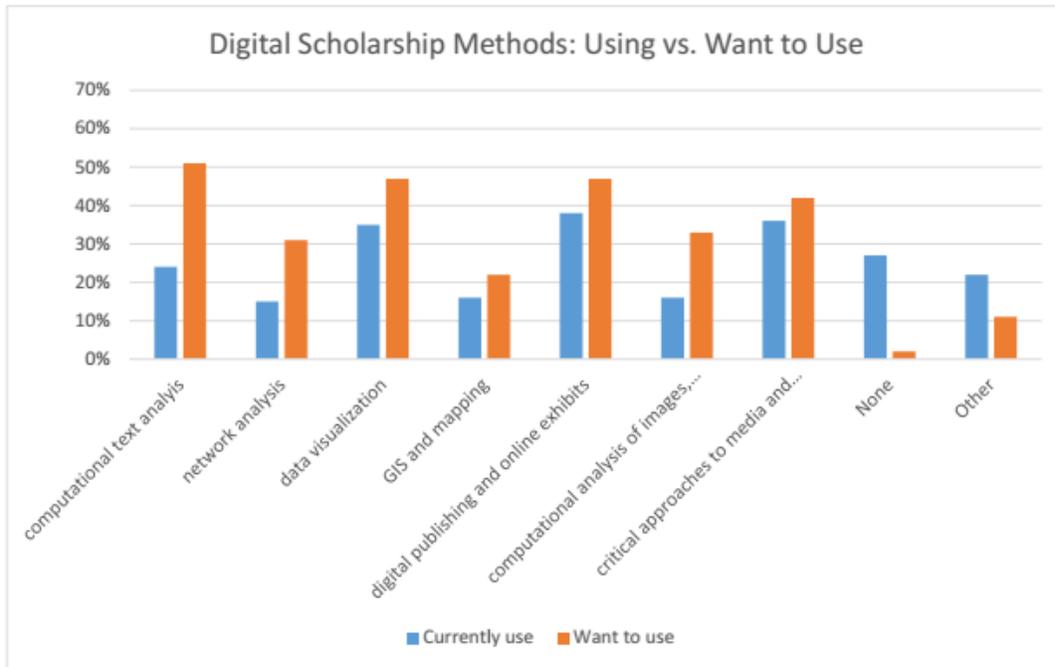
The methods used by the interviewees include:

- Text and data mining (text analysis, topic modeling, sentiment analysis, opinion mining, computational stylistics, data analytics, trend analysis, social media analysis, network analysis, visualization)
- Image analysis
- Qualitative data analysis
- Collaborative writing
- User interface design and UX analysis
- Digital collections creation and management

The tools interviewees reported using include:

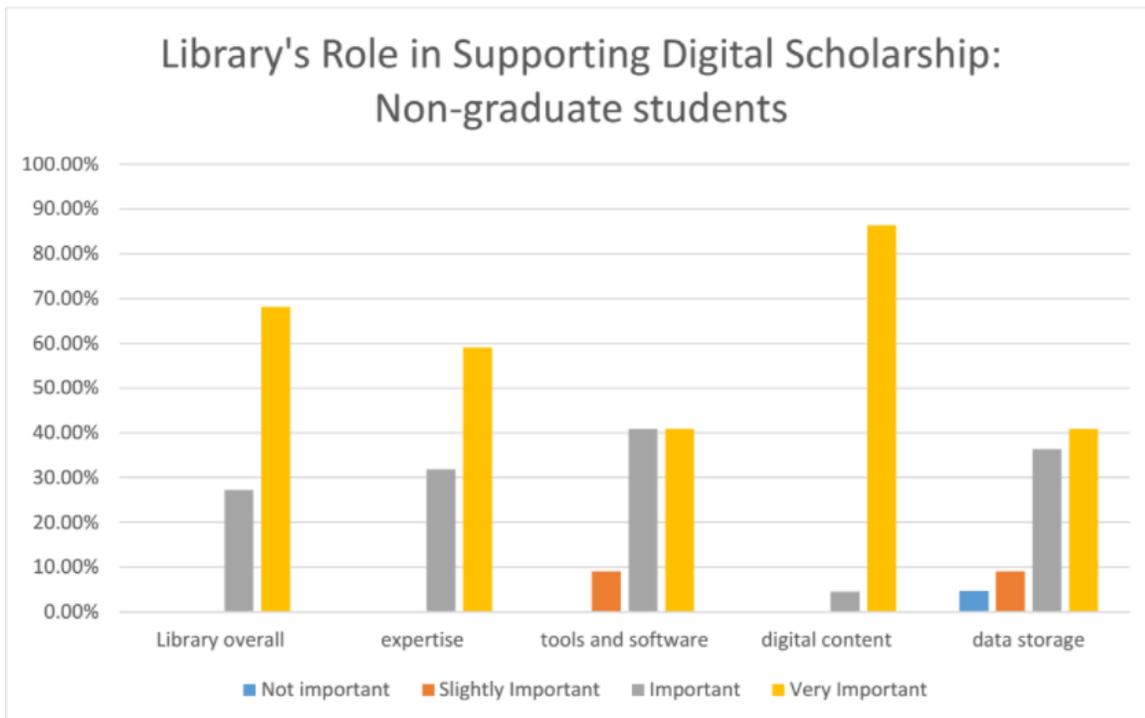
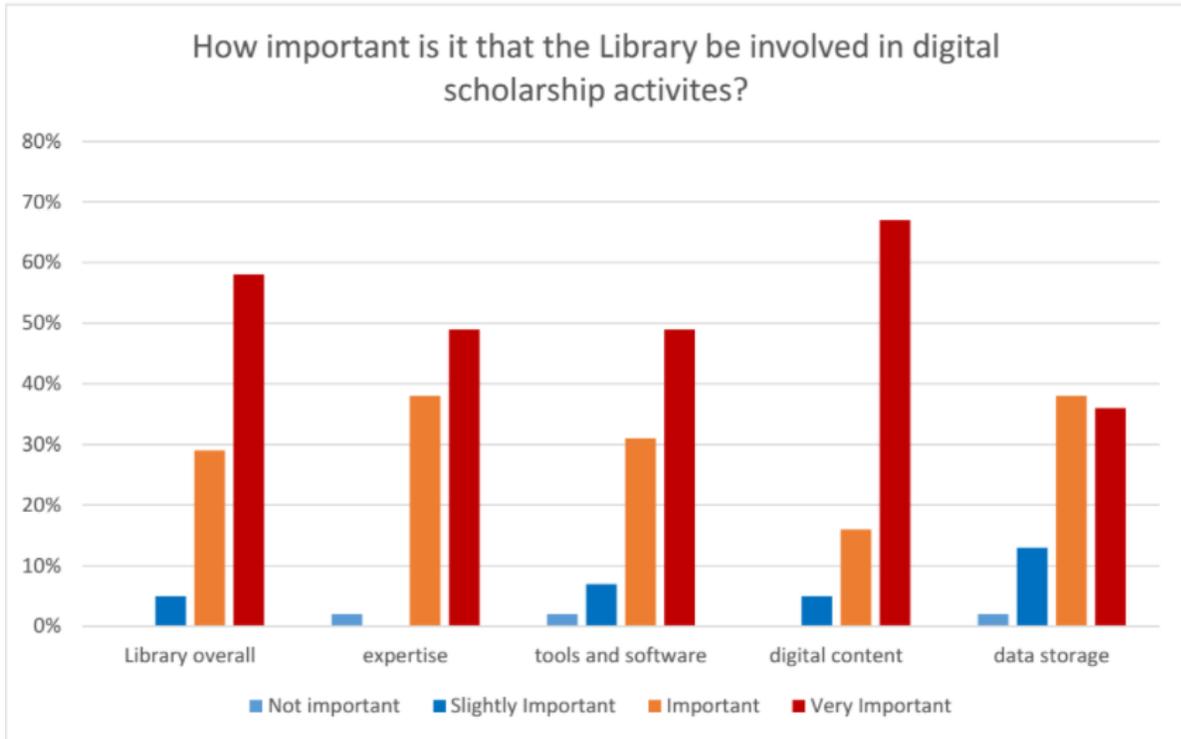
Data analysis	Rapidminer, WEKA, Mallet, ATLAS.ti, SPSS, Crimson Hexagon, overviewdocs.com, HathiTrust Research Center, GIS
Preparing, cleaning, and storing data	OpenRefine, ABBYY FineReader, Excel, Zotero, ContentDM, SQL databases, linked open data
Programming languages	R (R Studio), Python (Jupyter Notebooks), Javascript
Publishing, writing, and web	Scrivener, EPUB, TEI, Dreamweaver, BB Edit,
Data source	Twitter, Artstor, EEBO, Crimson Hexagon

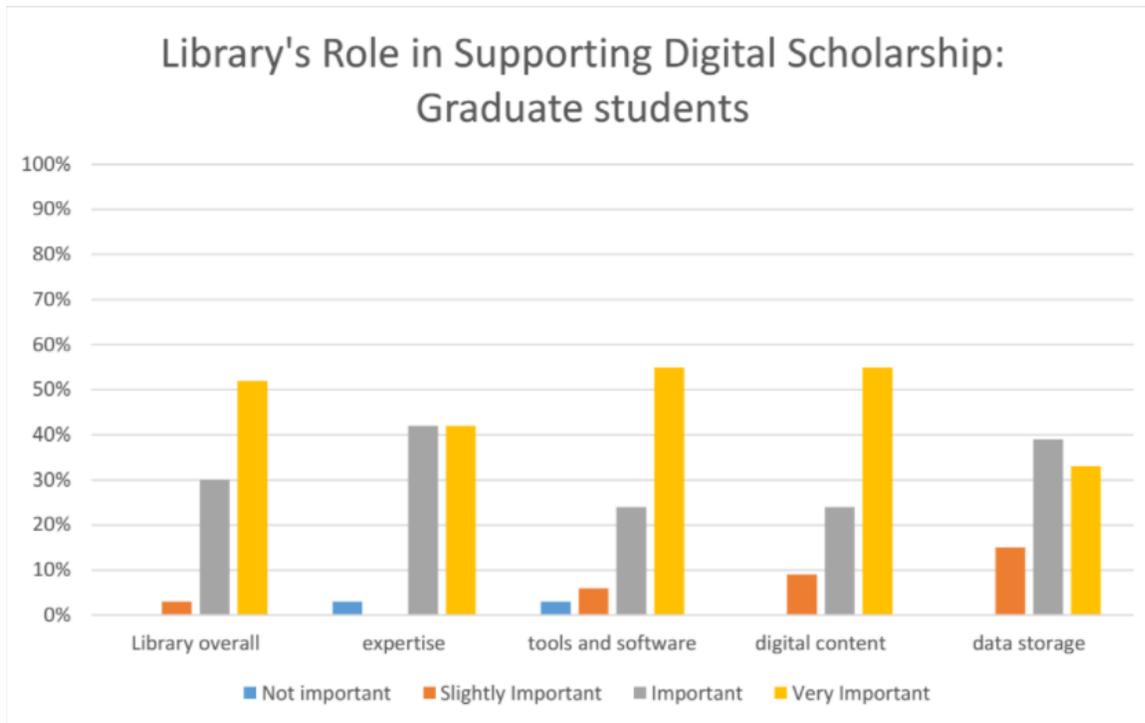
The methods survey respondents both use and desire to use are represented below:



The Role of the Library

The Scholarly Commons and University Library has a strong foundation to build upon: interview respondents frequently cited the Scholarly Commons as a key source of research help and support, and many see a key role for the Library in digital scholarship. The place of the Library in supporting digital scholarship also emerged in the survey. When asked about the role of the library in digital scholarship activities, 87% saw the Library as important or Very Important in digital scholarship overall. The strongest specific areas where the Library was identified most strongly (see Chart A), was expertise and tools and software. But when broken down by graduate students versus non-graduate student (see charts B and C), the needs for the Library varied a bit more.

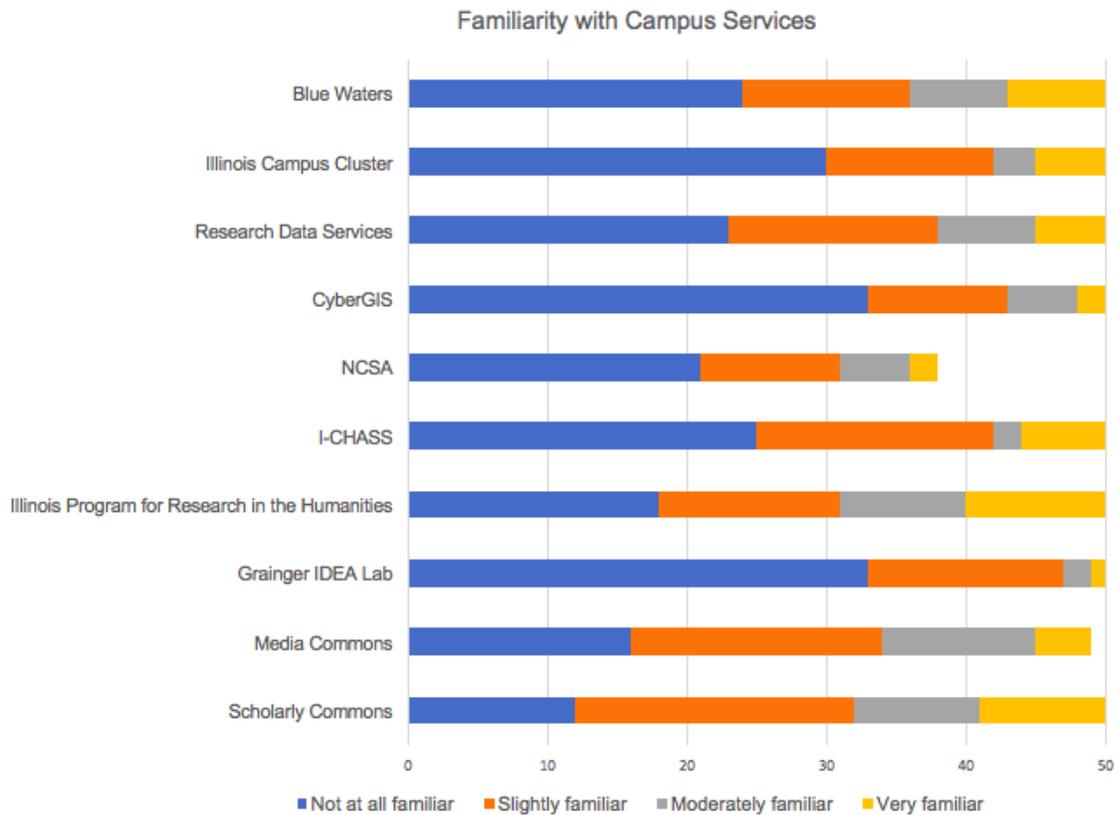




Areas of strength at Illinois identified by interviewees include:

- Publishing Without Walls
- XSEDE
- HathiTrust Research Center
- Illinois Informatics Institute
- School of Information
- NCSA
- The Design Center
- I-CHASS

Familiarity with campus services as reported by survey respondents suggests that many are unfamiliar with the resources available to them:



The committee’s recommendations have been distilled and linked to the Library’s Framework for Strategic Action in Appendix A.

Areas of Need

Access to Collections and Data

Discovery and Access

A key take-away from the survey is that respondents want and need the library to take a key role in providing access to collections and data, or in the case of many projects, collections-as-data. When asked about the importance of the library playing a role in several digital scholarship capacities, a greater proportion of respondents (67%) ranked “digital content/digitized collections” as “Very high” than any other role. For a significant portion of researchers, the library could have a major impact in this area with stronger digital collections discovery and access: 36% of respondents noted that access to digital collections/data was a barrier in their digital scholarship, and even more, 45%, responded that this type of access would make their digital scholarship easier to achieve.

Interestingly, the survey results suggest that this need rises as people grow in their digital

scholarship experience and expertise. For example, faculty were especially likely to see digital content access as a “very important” role for the library (86%), and 73% of those respondents who said that they both had digital scholarship expertise and were uninterested in training opportunities said access to digital content would help further their work, more than any other category of assistance.

While education and other factors are also likely to play a role, access to collections has obvious implications in areas where the survey revealed the biggest gap between use of particular digital scholarship methods and the desire to use those methods. These included computational text analysis (24% currently using; 51% wanting to use), network analysis (15% currently using; 31% wanting to use), data visualization (35% currently using; 47% wanting to use), and computational analysis of images, video, or audio (16% currently using; 33% wanting to use). Additionally, over 50% of those who identified data / digital content access as a barrier also sought to incorporate data visualization into their work in the future. All of these require large data, metadata, or collections-as-data sets that may not be readily available, or at least readily visible.

Intellectual Property

While the survey did not ask extensively about intellectual property issues, 31% of respondents did identify intellectual property challenges as a barrier they encountered related to digital scholarship. These issues likely relate to the copyright status of materials, licensing restrictions, unfamiliarity with fair use rationales for approaches such as text mining (or unclear understanding of when it might apply). Intellectual property challenges likely impact access to as well as re-use of collections, and require solutions in user education, clearer indications of copyright status in digital collections, improved digital license agreements, and likely other areas.

Funding

Identifying grant opportunities and writing proposals

Several interview respondents identified the need for increased support and guidance in finding and applying for research grants. As one respondent noted, “If there were suggestions for, if I have a grant to write where, by necessity, it has to be across institutions or it has to be across departments... and it’s nice having, in my program, having a really good budgeting person who I can just say, ‘Hey how do you do this cost share?’ and stuff like that. There’s a comfort, an underlying comfort, in knowing that there’s that sort of [an expert] or somebody that can shed some light or connect me to somebody that will shed some light to whatever question I have.” Another respondent noted that in many instances humanities scholars have “no experience whatsoever writing proposals.” Finding and applying for research grants is an important hurdle to overcome, as 55% of respondents indicated that funding would make it easier to pursue digital scholarship, 56% said funding would help to develop a new project within the next five years, and 49% of those already engaged in digital scholarship said funding would help

advance their digital scholarship and creative practice. 38% of respondents cited funding as one of the biggest obstacles to pursuing digital scholarship.

Paying for resources

Another key need expressed by respondents was access to mass data storage and the resources to pay for it, as data storage support was not as common in the humanities and social sciences as other units. One respondent explained, “I don’t know what it’s called, but the storage server space that faculty can buy... I have some of those stored on my wife’s program over in engineering. I wouldn’t even know about that. I know that it’s a rather expensive to manage. Now I don’t have a huge amount of stuff or statistical models that take up a huge amount of space. I just store large amounts of text. But sort of knowing that that’s there. Having access to that. The problem is, having access is one thing but being able to pay for it is an entirely different thing. It’s like, ‘Oh you can do this,’ but it still costs a thousand dollars a month and I don’t have twelve thousand dollars a year lying around.” Another respondent noted that lack of permanent funding for resources is the biggest threat to project sustainability, saying that “the survival of the thing is always in doubt.”

Collaboration and cost sharing

Related to writing grant proposals and obtain funding is the need for collaboration and cost sharing. Respondents referenced I-CHASS as a potential collaborator, though noted difficulties with the experience. One person said, “IT resources on this campus have to be paid for out of my grant funds. And since the campus has defunded I-CHASS, there's not really a clear partner for cost-share on the campus. This is going to be a major obstacle to getting grants in the future.” Another said “I thought that I could work with I-Chass you know, but basically what they want to do at I-Chass, is run the grant out of I-Chass and they take all the OCR money. You know, overhead cost recovery. You know, I’m from a teeny, tiny unit and we need it. I mean, I wouldn’t have research money if it weren’t for that. Um, and so I see them as sort of parasites on my project as opposed to helping it. I think there needs to be something done with I-Chass so that it is collaborative.” It is interesting to note that those who cited funding (56%) and collaborators (56%) as resources that would help to develop a new project are not likely to attend training or educational events.

Networks of Research and Community

Departmental Cultures

The results of the survey show there are some differences in the ways in which departments encourage and support the digital scholarship. Equal numbers of respondents described their departments as encouraging (25%) or neutral (25%) in regard to this type of scholarship. However, when the survey results are divided by discipline, the percentages shift with the majority of iSchool respondents indicating “encouraging” or “strongly encouraging” with regard to their department. The majority respondents from other departments tended to regard encouragement from their department for such scholarship or projects as neutral.

Many of the respondents cited departmental culture as a barrier to their work in the area of digital humanities. Overall 25% of respondents suggested this was the case, however

respondents also indicated some disciplines were less open to this type of scholarship. One interviewee suggested, “In the top ranks of humanities scholarship, when it comes to publishing, digital scholarship is generally perceived as a ‘second-tier’ form of publication. Print publication remains the ‘gold standard.’ Of course, there are some types of scholarship, multi-media or interactive scholarship for example, for which digital methods are ideally suited. But even in these cases, digital scholarship often does not have the same cache as traditional print publication.” In these instances, it can be difficult to work against perceptions or find needed support. And accordingly, Promotion and tenure with digital scholarship was a notable barrier, with 13% citing it as a key barrier.

Finding resources on campus

Respondents also cited the challenge of identifying and leveraging existing campus resources, ranging from expertise to technical tools and shared resources. One interviewee noted, “I honestly don’t know if anybody is finding anybody, what I would call, effectively right now. Because here we are in [redacted], we’re trying to build this information super highway, trying to provide the research high speed data network. And people don’t know that Box is out there, people don’t know the One Drive is out there. And those are fairly public facing types of services.”

In the survey, 35% observed that “lack of opportunities to learn about digital scholarship tools” was a major barrier. And of those who currently have digital scholarship projects, 22% indicated that “working with a campus unit that could support my work” was a key need to move their research forward.

Developing on-campus collaborations

Many interviewees wanted to pursue cross-departmental collaborations to advance their digital humanities-oriented research, but frequently cited the challenges of finding and forging such collaborations. As one interviewee described, “The barriers to it are, I think that on this campus, in general, and I don’t know what it is because I’ve experienced this as a department head, I mean just trying to teach cross listed classes or team teaching. The campus keeps trying to make us all interdisciplinary, comparative, and all of that, but it provides little concrete support for it. When you try and actually do the project, to teach the class, to do whatever, that there are institutional hurdles to it that, that just get so frustrating.”

Survey respondents reinforced this desire for finding collaborators: When asked what they needed to start a digital project within the next five years, 56% cited a need for collaborators. Furthermore, of those who currently pursued digital scholarship, 44% said that identifying and connecting to collaborators would critically help them advance their research.

Education

Challenge of learning new skills

One of the most significant challenges cited in both the interviews and the survey to doing digital humanities research was the need for opportunities to develop new skills. 35% of survey respondents said that “lack of opportunities to learn more” was a barrier to their work. While

21% of survey respondents suggested that they would not attend on-campus training, for those individuals, instead of training, finding collaborators and funding were the biggest barriers to their digital humanities work. Some interviewees noted the challenge of learning how to do digital humanities, including the difficulty of acquiring new skills and the lack of time for faculty to devote to training. In an open ended response to the survey, one survey respondent also noted, "Learning a new methodology -- and disciplinary norms/expectations -- is a time-consuming and intellectually challenging process. I'm not sure where to fit in the work."

Venues for learning

Interviewees suggested several venues for learning the technical skills and concepts needed for digital humanities research ranged from reading groups to more workshops to having spaces for using the needed software and tools. One respondent suggested, "A constant topic of conversation in the hallways Lincoln Hall is, 'why don't we have a little, a little self-help group to work on, for example, machine learning, how to code text,' so, that's something that I think could be a nice addition to the array of things we have." Likewise, survey respondents said they would be most likely to attend a hands-on learning group (51%), short workshops (67%), multi-day workshops (31%), and a reading group (22%). Survey respondents mentioned their preference for self-paced learning as well as their status as distance learners as two reasons they would be unlikely to attend training.

The popularity of hands-on learning groups among survey respondents suggests a need for community-driven learning opportunities. Such skill building groups also could be a key avenue for collaboration, as one respondent also observed:

"It's a pretty easy way of spotting people, not just in your own hallway, but also elsewhere on campus who would like to be in something that is the analog of a reading group, on a topic of interdisciplinary importance, so something like methods, methods reading groups. Or methods exploration groups for machine learning, say, or for network analysis, or for, anything, anything, bibliometrics, anything you could think of. Anything where it's just kind of hit-or-miss whether you're acquainted with other people who have the same kind of need you do."

Improved training would benefit not only the learner, but also the digital humanities ecosystem at Illinois overall: one faculty member interviewed described the lack of skilled student research assistance for digital humanities research as a barrier to his work:

"So the situation right now is that most students in the humanities at the undergraduate, graduate level really have very little exposure to the kind of thing I'm doing. They have little exposure to the whole broad range of digital humanities. There's a bunch of different projects involved and they don't really have much exposure to anything. it's, if a grad student doesn't have programming experience or some kind of exposure to stats, that's something that they are going to need to acquire. And so that's a bit of a bottle neck right now."

Additionally, one graduate student interviewee respondent observed that, despite a Computer

Science degree, he was mostly self-trained in digital humanities. He said, “I think there’s just a different skillset when it comes to computational analysis of data in general.... The CS degree, at least when I was going through it, doesn’t prepare you for it at all. So actually that whole realm I had to learn on my own because there’s, I mean, nothing that I had learned in my education had taught me that.”

Infrastructure and Research Support

Infrastructure needs

As noted above, the availability of digital content and collections is a key hindrance to pursuing digital scholarship for survey respondents: approximately 36% cited access to digital content and collections as a barrier. This issue can also be viewed in terms of infrastructural needs on campus, which relates to technical and logistical needs. For those who didn’t rank education and training as a high priority, the numbers skyrocketed to 64% needing access to digital content and data, and 45% needing technical infrastructure. For those who currently pursue digital scholarship, infrastructure was even more key: 33% cited a need to access data and digital collections. More notably, of those who previously indicated that they did *not* want educational training, 73% of those non-training respondents cited the need for ways to access data. When asked what would make it easier to pursue digital scholarship at Illinois, 45% ranked access to data as an important need and 36% ranked technology and technical infrastructure highly.

Developing and sustaining infrastructure on campus is not easy, as described by one interviewee:

“I think we sometimes we try too many short term things, don't figure out a way to put in place structures and organizations that are integrated into the larger dynamic of the university, so that they naturally proceed...giving it more money just doesn't work...One challenge is to integrate services into the system that is not episodic, but is deep and part [of the structure].”

Finding help when starting a project

A major obstacle cited by several respondents was how to get started on a digital humanities projects, and they expressed the need for research support services that could help them launch their research workflows. One respondent described a possible structure, noting “But if I had a resource, a group, an email to send to as we’re undertaking projects. Like when we were starting out to do these supplemental pages, there was nobody that I could think of to ask, ‘How should we do this,’ ‘what would be the best practice approach for putting these things together?’ What I’m dreaming of is this all-knowing single source for the right way to do everything, whatever that might be. You know, you can go to the web and you can do searches all day long and get all kinds of opinions on best practices. Maybe you guys know where the best place is to get advice like that but I don’t. I’m constantly overwhelmed with all the different places that are advising different techniques.”

Survey respondents reiterated this need, with 35% ranking a campus unit to support their work as a strong need. Of those who currently pursue digital scholarship, 46% ranked the need to connect with collaborator, and 29% cited a need for a campus support unit. And in response to what would make it easier for them to pursue digital scholarship at Illinois, 38% again ranked “unit or resource center for getting research support and expertise” highly and 33% cited the need for “qualified research assistants.” One survey respondent further noted, “Although I cannot express my gratitude for the excellent work our University has already done, accessing data and repositories and finding consultation regarding copyright might be helpful for future development.”

Sustaining and preserving projects

Sustainability was another key concern for interviewed scholars as they conducted data driven research. One respondent observed, “Are they called Research Data Services? What that intends to be is what I want. So I want more support for long term archiving of digital projects because... I know I’m a junior scholar and I already feel like I see this so many times in my life. Projects come and projects go. They are funded for a year, two years, sometimes three years. And then after that nobody really pays attention. Often times servers just go down. It would be good to have support for hosting data, hosting projects. Either hosting projects as just putting all the zipped-up files somewhere, but even better a mirror of a website or something. If you have the web front face. That’s what I want to see most.”

Survey respondents saw a need for preservation infrastructure as well: When asked how important they considered sustainability--defined as “e.g., long term digital preservation, continuous funding, or persistent access”--to be for their digital scholarship research, 33% identified sustainability as Important and 45% identified sustainability as Very Important. Of the open responses about their sustainability and preservation practices, respondents noted that sustainability can take different forms: One noted, “My projects usually have static deliverables: articles or datasets, not interactive web portals. So publishing open access is the biggest part of sustainability.”

Respondents cited using different methods ranging from open repositories, disciplinary databases, cloud services, and some saw a much larger challenge, as one person observed, “Frankly, given the current state of digital preservation methods, sustainability is virtually impossible. Digital material is simply not configured for preservation beyond a few years, perhaps a few decades at most. The digital preservation methods used only 20-30 years ago have rendered those data virtually inaccessible.”

Proposed Recommendations for the Library

Provide opportunities for in-depth training

- Offer 1-credit course on DH, potentially in partnership with the iSchool or interested

campus departments;

- Foster and host group learning opportunities that are participant-driven, potential through research clusters or reading groups in 220 Library;
- Build on Savvy Researcher workshops to offer longer trainings and deep-dive events on skill building, such as Data Carpentry workshops.

Connect the Library's role in research data curation to digital scholarship creation

- Create a visible continuum of support in the Library that spans from the creation through curation of digital scholarship, in order to explicitly support the sustainability of research and teaching products from digital scholarship;
- Identify and implement engagement activities that demonstrate how the library plays a unique role in supporting research and teaching at multiple points in the research lifecycle -- identify and expand those activities;
- Communicate more prominently through outreach and teaching that the library is willing and able to collaborate on a range of work tasks for digital scholarship, from individual projects to large scale grant-funded initiatives.

Expand the Library's strengths in Discovery and Access to digital collections

- Improve access to digital/digitized collections. It is important here that this strategy include not only improvements to access of local digitized collections but greater capacity to meet the needs of scholars creating data sets from digital collections and metadata that may expand beyond local collections (such as those available via the DPLA and HathiTrust).
 - Understand and operationalize the need for discovery of and access to not just items (on a one-by-one basis) but relevant collections of digital content, or access of disparate items that leads to the creation of such a collection.
 - Make our infrastructure and other infrastructures for digital collections discovery and access more visible to patrons working on digital scholarship. Improve usability where we have the ability to do so.
- Develop public services capacity (in both the Scholarly Commons as well as among subject liaisons) for assistance with digital collections discovery, access, and reuse.
- Integrate lessons from the Library of Congress "Collections as Data" initiative and IMLS "Always Already Computational" to improve services related to making digital collections both accessible and actionable.
- Connect to training initiatives (described above) to improve understanding of access and discovery of large-scale collections that may require unique skillsets (i.e., API use or other specialized search strategies suitable to the discovery of collections of material rather than specific items).

Build space and opportunities for people to form communities of practice

- Host events for both the Library and other campus groups (e.g., IPRH), that allow people to connect to one another, the Library, and campus resources;
- Create spaces for encourage people to collaborate and learn from each other for future collaborations, such as the forthcoming Humanities and Interdisciplinary Collaboratory, IDEA Lab, and other newly-opened library spaces;
 - For example, seed the Collaboratory with research clusters that create opportunities for active learning and collaboration
- Market the Library as central, shared, inclusive space;
- Develop spaces and programming that encourage innovative use of digitized collections and Library resources.

Act as a key node in the network of digital scholarship research initiatives

- The Library should build a diversity of services, while also connecting people across campus to other sources of support and skills.
- The Library should be service-agnostic: Work with a range of disciplines, methodological approaches, and levels of need;
- The Library should not duplicate, but enhance information sharing about relevant sources, events, etc. around digital scholarship and data;
- Strengthen the Scholarly Commons' brand and marketing for digital scholarship services;
- Strategically communicate the Library's resources and services for digital scholarship.

Build library personnel capacity for digital scholarship services

- Provide educational opportunities for subject specialists and others in the library with increasing involvement in digital scholarship so that they are prepared to engage at increased levels with the needs outlined in this report.
 - Besides in-house opportunities, take advantage of opportunities to send individuals to ARL's Digital Scholarship Institute and other advanced opportunities (Humanities Intensive Learning & Teaching, HILT; Digital Humanities Summer Institute, etc.).
- Designate leadership and teams where appropriate to move forward on the other proposals in this report.
- Improve capacity for individuals across the library to engage in digital scholarship, but also maintain clear leadership to coordinate forward movement strategically and liaise with key stakeholders on campus.

Appendix A: Connections to Framework for Strategic Action

This table presents the resulting recommendations from the DH Needs Assessment study. The leftmost column presents key themes that arose in the interviews. For each, we provide several recommendations either suggested by interviewees and survey respondents or inferred by the Digital Humanities Needs Assessment Working Group. One actionable idea accompanies every recommendation, both of which are linked to a point from the Library's [Framework for Strategic Action](#). We have *italicized* actionable ideas already in progress, and **bolded** those we believe should be prioritized.

Thematic area	Recommendation	Actionable idea	Framework point
Provide opportunities for in-depth training	Partner with departments or colleges on in-course instruction	Explore 1-credit course on DH	1.E.
	Build on Savvy Researcher workshops to offer longer training events	Continue to support Data Carpentry and Computational Social Science workshops via the Office of Research	1.E.
	Train Library faculty and staff to have familiarity and basic skills in digital scholarship and data services	<i>Send people to ARL Digital Humanities training; support learning through the IMLS HTRC DDRF initiative</i>	4.D.
Emphasize the Library's unique ability to offer support at multiple points in the research lifecycle	Connect the Library's role in research data curation to digital scholarship creation, and strengthen this continuum of support	Build research teams of librarians to support digital projects	1.A., 2.B.
	Make the Library's digital	Create framework	2.A.

	collections visible and accessible for digital scholarly use	for data (i.e. datasets, objects, and metadata) Build up mechanisms for discovery and access to datasets via development of easily findable data index and/or entries in the Library A-Z list; the development and implementation of dataset access policies, interface with Medusa and/or an easier way for people to request data	
	Convey willingness to support a range of digital scholarship, from individual projects to large scale grant-funded initiatives	Incorporate this messaging into marketing for Scholarly Commons	1.A., 2.B.
Build space and opportunities to form communities of practice	Develop spaces and programming that encourage innovative use of digitized collections and Library resources	<i>Create “Collaboratory” space</i>	3.A., 3.B.
	Host community-building events for both the Library and other campus groups	Plan open house event for Scholarly Commons and/or “Collaboratory”	2.B.
	Market the Library as central, shared, inclusive space	Incorporate this messaging into marketing for Scholarly Commons	2.C.
Act as a key node in the network of digital scholarship research initiatives and programs	Connect people across campus to other sources of support and skills	Develop referrals system to other departments or experts	1.A.
	Build a diversity of services: Work with a range of disciplines, methodological approaches, and	Build research teams of librarians to support digital	1.A., 2.B.

	levels of need	projects	
	Don't duplicate, but enhance information sharing around relevant sources, events, etc	Create an aggregating newsletter of digital scholarship activities on campus	2.B., 2.C.
	Strengthen the Scholarly Common's brand as campus hub for digital scholarship services	Develop strategic communication plan for marketing that incorporates this message	2.C.

Appendix B: DH Needs Assessment Working Group Charge

Charge:

The Digital Humanities at Illinois Needs Assessment Working Group will plan and implement pre- and post-tasks for the Digital Humanities Needs Assessment study interviews and survey. The advisory group will reach out to the campus community when needed and coordinate efforts designed to gather the most diverse responses possible to the assessment interviews and survey. The advisory group will plan post-study tasks following the administration of the Digital Humanities Needs Assessment interviews and survey. After the interview and survey periods, the working group will produce an executive summary, as well as other library-wide reports or presentations, in consultation with the three AULs related to matters of User Services, Collections and Technical Services, and Research. The AUL for Research will serve as the primary point of contact for the group.

Membership:

- Harriett Green, English and Digital Humanities Librarian, chair
- Eleanor Dickson, Visiting HathiTrust Research Center Digital Humanities Specialist
- Melanie Emerson, Head, Ricker Architecture and Art Library
- Sarah Christensen, Visual Resources Specialist
- Daniel Tracy, Library and Information Science and Research Services Librarian
- JoAnn Jacoby, Associate University Librarian for User Services

For more information:

http://www.library.illinois.edu/committee/Digital_Humanities_Assessment_Working_Group/Digital_Humanities_Assessment_Working_Group.html

Appendix C: Survey Protocol

Digital Humanities Needs Assessment Survey

Time: approximately 20 minutes

Introduction

This is a survey conducted by the University Library Scholarly Commons for the project “Supporting Digital Humanities Research at UIUC: A Digital Humanities Needs Assessment.” This survey aims to assess the activities, interests and needs related to digital humanities and digital scholarship tools and methods on the University of Illinois of Urbana-Champaign campus.

Digital scholarship is defined for the purposes of this survey as the “use of digital evidence and method, digital authoring, digital publishing... and digital use and reuse of scholarship.”

The type of research and publication produced by scholars in digital humanities and digital scholarship include: “print and web-based text, video, audio, still images, annotation, and new modes of multi-threaded, nonlinear discourse.” (Association of Research Libraries, *SPEC Kit 350: Supporting Digital Scholarship*, 2016)

1. Please select the statement that best describes your research and relation to digital scholarship:

[Radio buttons]

- I use or am actively learning about digital scholarship tools and methods
- I do not use but am interested about digital scholarship tools and methods
- I do not use and am not interested

[Skip Branch, see question 4-5]

2. Please select the statement that best describes your teaching with digital tools and methods:

[Radio buttons]

- I teach with digital scholarship tools.
- I do not teach with digital scholarship tools or methods, but I am interested in doing so.
- I do not teach with digital scholarship tools or methods and do not plan to start

[Skip Branch, see question 4-5]

3. Please select the statement that best describes your advising students who use digital tools

and methods:

[Radio buttons]

- I advise undergraduate and/or graduate students who use digital scholarship tools or methods.
- I do not advise undergraduate and/or graduate students who use digital scholarship tools or methods.

[Skip Branch, see question 4-5]

4. (If answered “do not...” to #1-2) If you do not use digital scholarship tools and methods in your research or teaching, please describe your rationale.

[OPEN COMMENT BOX]

5. (If answered “do not...” to #1 or 2) To what degree does your department or college encourage digital scholarship research?

[Radio buttons]

- 1 - Strongly Discourages digital scholarship research
- 2 - Slightly Discourages digital scholarship research
- 3 - Neither discourages or encourages digital scholarship research
- 4 - Encourages digital scholarship research
- 5- Strongly encourages digital scholarship research

Research practices

5. Do you collaborate in your digital scholarship? Or do you not collaborate?

[Radio Buttons]

- Yes, I collaborate.
- No, I don't collaborate.

6. If yes, please select all options that apply to describe your collaborators:

[Multi-select Checkboxes]

- My collaborators are all affiliated with the University of Illinois;
- None of my collaborators are affiliated with the University of Illinois.
- Some of collaborators are affiliated with the University of Illinois, and others are not.

7. Which digital scholarship methods do you incorporate into your research? Please select all that apply.

- Computational text analysis (e.g., Text mining)

- Network analysis
- Data visualization
- GIS and mapping
- Digital publishing and online exhibits
- Automated analysis of images, video, or audio
- Other: _____

8. Which digital scholarship methods would you like to incorporate into your research? Please select all that apply.

- Computational text analysis (e.g., text mining)
- Network analysis
- Data visualization
- GIS and mapping
- Digital publishing and online exhibits
- Automated analysis of images, video, or audio
- Other: _____

8. What resources or opportunities would help you develop a new project using digital tools in the next five years? Check all that apply.

- If I had time to pick up a particular skill.
- If I had a collaborator(s)
- If I had funding
- If there was a unit on campus who could partner on/support my work
- I am already using digital tools, and have no plans to start a new project.
- Other: _____

[Skip logic, see Question 10-11]

9. Please share any additional experiences or comments about using digital tools and methods.

[OPEN COMMENT BOX]

10. Which of the following would help you advance further in your digital scholarship research? Please select all that apply.

[checkboxes]

- Developing additional skills
- Finding collaborators
- Securing funding
- Access to a unit on campus who could partner on/support my work

- Other: specify _____

11. How important do you consider sustainability (such as long term preservation, continued funding, or persistent access) to be for your digital projects?

[Radio Buttons]

- 1 - Not Important
- 2 - Slightly Important
- 3 - Important
- 4 - Very Important

If appropriate, please describe how you plan to make your digital projects sustainable. [OPEN TEXT BOX]

Teaching practices

12. Which of the following digital methods do you integrate into courses you teach? Please select all that apply.

[checkboxes]

- Digital/Online writing
- Building websites/online exhibits
- Computational text analysis (i.e. text mining)
- Automated analysis of audio, images, or video
- Network analysis
- Other: _____
- None

13. In your opinion, how effectively do University of Illinois courses integrate digital methods and tools in humanities and social sciences courses overall, compared to other research universities?

[Radio buttons]

- 1 - Not Effective use / none at all
- 2 - Slightly effective use of digital tools
- 3 - Moderately effective use of digital tools
- 4 - Effective use of digital tools
- 5 - Highly effective use of digital tools
- N/A - Not enough information to say

Campus climate and resources

14. Which of the following are barriers you face in pursuing digital scholarship? [Select all that apply]

- Campus/departmental culture

- Tenure expectations
- Funding
- Time
- Finding collaborator(s)
- Intellectual property issues, such as copyright
- Need for education/training about digital scholarship tools and methods
- Other: _____

15. To what degree does your department or college encourage digital scholarship research?

[Radio buttons]

- 1 - Strongly Discourages digital scholarship research
- 2 - Slightly Discourages digital scholarship research
- 3 - Neither discourages or encourages digital scholarship research
- 4 - Encourages digital scholarship research
- 5- Strongly encourages digital scholarship research

16. Which of the following would make it easier for you to pursue digital scholarship on this campus?

Check all that apply.

- Training
- Funding sources
- Release time
- Technical infrastructure / technology resources
- Center for getting research support and expertise
- Access to digital/digitized collections (i.e. primary sources and data)
- Other: _____

17. In your opinion, how important is it that the library be involved in digital scholarship activities on campus?

[Radio buttons]

- 1 - Not important
- 2 - Slightly important
- 3 - Important
- 4 - Very important

18. How do you rate the importance of the role of the University Library in supporting digital scholarship in each of these specific areas?

[Matrix: rate on scale “very important” to “not important at all”]

- Expertise
 - 1 - Not important
 - 2 - Slightly important
 - 3 - Important
 - 4 - Very important

- Collection Resources
 - 1 - Not important
 - 2 - Slightly important
 - 3 - Important
 - 4 - Very important

- Data Storage
 - 1 - Not important
 - 2 - Slightly important
 - 3 - Important
 - 4 - Very important

- Other: _____
 - 1 - Not important
 - 2 - Slightly important
 - 3 - Important
 - 4 - Very important

19. Please rate your familiarity with the following campus resources:

[Matrix, Rate on scale of 1-4 for each option, include option for n/a]

Scholarly Commons

IPRH

NCSA

CyberGIS Research Center

Research Data Services

Campus Computing Cluster

- 1 - Not familiar at all
- 2 - Slightly familiar
- 3 - Familiar
- 4 - Very familiar
- Not applicable

20. Please provide the name of any other campus resource you use.

[OPEN TEXT BOX]

21. Please rate the helpfulness of the following campus resources for facilitating digital scholarship research:

[Rate on Likert scale 1-5: very effective to not effective at all, include option for n/a]

Scholarly Commons

IPRH

NCSA

Institute for Computing in the Humanities, Arts and Social Sciences (I-CHASS)

XSEDE

CyberGIS

Research Data Services

Campus Computing Cluster

- 1 - Not helpful at all
- 2 – Less than helpful
- 3 – Moderately helpful
- 4 - Helpful
- 5 – Extremely helpful

Not applicable

Demographics

22. Please select your department:

[Drop down list of schools / colleges / departments]

23. Please select your position at the University of Illinois (select the role that accounts for the majority of your working hours at the University of Illinois):

- Professor
- Associate Professor
- Assistant Professor
- Non-tenure faculty
- Academic Professional
- Postdoc
- Graduate student
- Undergraduate student