

DIGITAL SCHOLARSHIP ROAD MAP

A Report from UH Libraries' Digital Scholarship Services Team

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Introduction

In October 2015, the University of Houston (UH) Libraries' administration charged a group to develop recommendations for how the Libraries should move forward in the growing area of digital scholarship. The Digital Scholarship Services Team (DSST) was directed to build on the work of an ad hoc group that had been informally discussing digital scholarship services opportunities for the Libraries, and DSST was given the following specific responsibilities:

- Define what is meant by Digital Scholarship Services
- Develop and implement a formal needs assessment to identify and prioritize needs related to digital scholarship services
- Benchmark with other institutions on their digital scholarship services and/or programs
- Conduct an environmental scan to determine the extent of digital scholarship services currently being offered in the libraries and elsewhere at the University
- Identify existing areas of expertise and identify skills needed in the Libraries to fill gaps

The timeline assigned to DSST was intended to enable the group to work closely with the Libraries' Strategic Planning Team (SPT), and the chair of the DSST was invited to join the SPT. This arrangement encouraged close communication between the two groups and ensured that the recommendations of this report aligned closely with the strategic priorities that will guide the work of the Libraries for the next several years.

DSST began its work by defining "digital scholarship:"

"Digital Scholarship enhances the act of creating and sharing knowledge using digital technology. It leverages digital technology and media to conduct research across disciplines and to disseminate, access, and/or reuse it via primarily electronic methods."

The team developed the definition based on investigating how the term is used in other libraries and higher education institutions. The group regarded it as a "working" definition that could be adapted as needed if, for instance, it did not resonate with faculty or other stakeholders.

As the team progressed through the tasks enumerated in its charge, a vision of digital scholarship services for the UH Libraries began to take shape. As DSST learned more about the growing digital scholarship needs on campus, the exciting work being done by other academic libraries, and the expanding capacity and enthusiasm of our UH Libraries' colleagues, the team became increasingly confident that the Libraries are well positioned to become a campus leader in digital scholarship services. By providing facilities and resources that enable scholars to ask and answer entirely new types of research questions and, more importantly, by being indispensable partners in this research, the UH Libraries will align digital scholarship services with forthcoming strategic plans.

Methodology

The team began its work by developing a timeline to fulfill its charge and identify key goals. From there, DSST gathered data from a variety of sources, generated results, and used this information to make recommendations.

Timeline

Date	Activity
October 2015	<ul style="list-style-type: none"> ● Identify external stakeholders ● Develop stakeholder questions ● Collect library survey data
November 2015	Conduct stakeholder interviews, environmental scan, and benchmarking
December 2015	Compile, solicit, and obtain feedback on preliminary results from stakeholder interviews, benchmarking, and environmental scan
January 2016	Draft, solicit, and obtain feedback on final report, including recommendations on developing digital scholarship services and center
February 2016	Submit the final report to Library Administration and SPT so that recommendations can be incorporated into the strategic plan (due March 1, 2016).

Data Collection

DSST selected three methods for gathering data about digital scholarship needs:

1. Focus groups, both internal and external
2. Review of services and resources provided by peer institutions (benchmarking)
3. Environmental scan of UH campus and community to identify existing services and unmet needs.

Focus Groups

DSST conducted multiple focus groups with internal library stakeholders, including the ad hoc digital scholarship group, as well as brief meetings with Branch Services and Liaison Services. In addition, DSST collaborated with the SPT to conduct a series of external stakeholder focus groups, including interviews with the faculty focus group, the undergraduate student focus group, the Geospatial and Data Visualization Interest Group, the Associate Deans for Research, the graduate student focus group, and the UH Faculty Senate's Library Committee. Finally, DSST also worked with SPT to gather library-wide feedback via two World Cafe sessions.

Benchmarking

DSST reviewed the digital scholarship services and resources of 27 peer and aspirational institutions, paying particular attention to services, staffing and equipment. These institutions included:

- Brown University
- Columbia University
- Duke University
- Emory University
- Michigan State University
- MIT
- North Carolina State University
- Oregon Health Sciences University
- Purdue University
- Rice University
- Stanford University
- Temple University
- Texas A&M
- UCLA
- University of Cincinnati Health Sciences Center
- University of Illinois
- University of Michigan
- University of Minnesota
- University of Minnesota
- University of Nevada, Las Vegas
- University of New Hampshire
- University of Oregon
- University of Texas at Austin
- University of Virginia
- University of Washington
- Washington and Lee University Library
- Yale University

See [Appendix A: Benchmarking Data](#) for compiled data from this exercise.

Environmental Scan

DSST identified five campus units providing related digital scholarship services: the Division of Research, the College of Natural Science and Mathematics' (NSM) Information Technology department, NSM's Office of Research, Texas Institute for Measurement, Evaluation, and Statistics (TIMES), and the Allied Geophysical Labs. See [Appendix B: Environmental Scan Data](#) for compiled data from this exercise.

Data Coding & Visualization

Data gathered from the aforementioned activities were coded into fifteen categories. The top three categories most discussed by the focus groups were:

1. Data analysis and visualization
Resources and support for digital humanities, GIS, data visualizations, and qualitative data support.
2. Data management support
Support for acquiring, managing, describing, storing, and publishing data throughout the research lifecycle.
3. Data storage and repository resources
Data repository enabling UH researchers to store, preserve, and publish their research data.

See [Appendix C: Coded Data](#) for compiled data from this exercise.

To assist with analyzing the results, DSST created visualizations of the results using bar charts and relationship network graphs. See [Appendix D: Visualized Data](#)

Prioritizing Services, Staffing, Equipment, and Spaces

Using the preliminary results from coding and visualizing data, DSST devised an exercise which asked members of the ad hoc digital scholarship group and SPT to prioritize and sequence potential digital scholarship services, staffing, equipment, and spaces. DSST used results from this exercise to inform its recommended timeframe for implementing digital scholarship activities and spaces. See [Appendix E: Priorities for Digital Scholarship](#) for compiled data from this exercise.

Results

DSST emphasized the needs of external stakeholders (derived from focus group sessions) and the data compiled from benchmarking with other institutions when formulating results. Top areas of interest across these two sources include the need for:

- Dedicated space for digital scholarship
- Assistance with the management and use of data (e.g., data plans, data description, data storage, etc.)
- Expanded assistance with GIS, data visualization and statistical analysis
- High performance technology (e.g., computers, software, sensors, mobile devices)
- Increased infrastructure for acquiring and hosting data sets

Much of the internal library focus group data from the World Cafe activities mirrored these needs. Additionally, data from the World Cafe showed a strong interest in expanding UH Libraries' digitization efforts to increase the kinds of research materials available for digital humanities and other projects.

Collaboration

As DSST gathered and processed information to prepare this report, it was consistently clear that a successful program of digital scholarship services will require contributions from nearly all units in the UH Libraries. Multiple departments are already engaged in digital scholarship work, from data visualization consultations in Liaison Services to managing ETDs in Repository Services to digitizing primary source materials in Special Collections and Metadata & Digitization Services, and the team's recommendations anticipate significant participation from each of these departments, plus several more. To move forward with the recommendations of this report, the UH Libraries must continue to nurture and reward strong collaboration among departments and provide incentives and support to librarians and staff to work together to achieve the ambitious plans laid out here.

Recommendations

After analyzing these results, DSST developed the following set of recommendations as a "road map" for implementing digital scholarship services, and, ultimately for building a physical center to locate these services. The recommendations are divided into a series of phases, with a corresponding set of services, staffing, and spaces. Preliminary budget figures are also included for the first three phases. Readers should note that the phases are intended to be iterative and may overlap. This approach will allow UH Libraries to assess progress over time and make evidence-based decisions on future directions.

Phase 1: Consolidating and Marketing (6-12 months to complete)

In this phase, UH Libraries will develop a communication plan to bring together the existing Libraries' digital scholarship activities and promote these services more effectively to the campus. DSST recognizes that much digital scholarship work already takes place in the Libraries and sees opportunities for our existing services to provide greater value through improved cross-departmental communication and coordination. The plan includes a communication campaign, which highlights services that address the intersection of technology and the research lifecycle. Identifying a term that both describes digital scholarship services and resonates with students, faculty, and staff is an imperative step in this phase.

To ensure the completion of Phase 1, DSST recommends that Libraries Administration appoint a lead person to coordinate the identified tasks. Phase 1 should begin in June 2016.

RECOMMENDATION:

Develop a cohesive communication plan to promote the Libraries' digital scholarship services.

Existing Services & Resources		
Description	Primary department(s)	Notes
Student/faculty consultations on data analysis, data visualization, and/or digital humanities	Liaison Services	Current capacity is approximately 100 one-time consultations (20-60 minutes) per semester
Faculty partnerships (as co-authors and/or grant co-investigators) on digital scholarship projects (data analysis/visualization, digital humanities)	Liaison Services	Current maximum capacity is five concurrent partnerships
Research Guides for data visualization, data sources, GIS, digital humanities, data storage, copyright, etc.	Liaison Services	Current Research Guides: Copyright (http://guides.lib.uh.edu/copyright) Digital Research Services (http://guides.lib.uh.edu/digitalresearch) Data Management Services (http://guides.lib.uh.edu/datamanagement)
Workshops on data management best practices	Liaison Services	Current capacity is two one-hour workshops per semester
Access to digitized primary sources (e.g., Digital Library, HathiTrust, commercial databases)	MDS/RDS/Acquisitions	
Access via library subscription or purchase to data web portals (e.g., SimplyMap, ReferenceUSA)	RDS/Acquisitions	

Digital media equipment check-out, training, and hardware/software	IAS	Information & Access Services provides: <ul style="list-style-type: none"> • Camera (and other AV equipment) check-out • Technology Training program • Access to high performance workstations and software
Electronic theses and dissertations	Repository Services	UH Libraries host ETDs on TDL platform and assist students in submission of ETDs; policies and procedures are defined by the Graduate School and individual colleges
API keys and API support	Web Services	As needed when contacted
Data storage (no access)	Computer Systems & Networking	As needed when contacted
On-demand digitization	MDS/Special Collections	

RESOURCES NEEDED:

Staffing:

Phase 1 requires no additional staffing, but will require contribution of staff time to develop the communication campaign (ex., Communications Department., Web Services, Subject Liaisons, etc.).

Increased capacity could be achieved by training current staff (bearing in mind that this will require trade-offs with other staff responsibilities).

The hiring of student workers (graduate and/or advanced undergraduate) with relevant skills and interests could also enable Phase 1 to develop more quickly and robustly.

Space:

No additional space required.

Assessment:

Phase 1 concludes with the creation and implementation of a unified communication plan for digital scholarship services at the UH Libraries. Assessment measures should be developed and a baseline of activity established for future data analysis.

Phase 2: Responding to Current Needs (6-18 months to complete)

Phase 2 focuses on addressing the current digital scholarship needs of faculty and students. The expansion of services should be done strategically, leveraging current partnerships and using existing data to identify core groups with strong demand for digital scholarship services. New activities can be launched and capacity for existing activities increased by 100% or more.

RECOMMENDATION:

Establish a formal Digital Scholarship Services unit or department and create a new Coordinator of Digital Scholarship Services position. One technical specialist (e.g., developer or data analyst) position and a student workforce of 4-8 should also be funded.

Estimated Cost: \$180,550

Phase 2 Services & Resources (+ services & resources described in Phase 1)	
Description	Notes
Student/faculty consultations on data analysis, data visualization, and/or digital humanities	Expanded capacity of approximately 200 one-time consultations (20-60 minutes) per semester
Faculty partnerships (as co-authors and/or grant co-investigators) on digital scholarship projects (data analysis/visualization, digital humanities)	Expanded maximum capacity of 8-10 concurrent partnerships
Workshops on high-demand digital scholarship topics (e.g., data management, metadata creation, GIS)	Expanded capacity of 4-6 workshops/semester
Custom Research Guides for courses, research groups, etc.	
Facilitate research data deposit, description, access, and preservation for faculty and students	
Internal training program for library staff in other departments	

RESOURCES NEEDED:

Staffing:

New positions:

- Coordinator of Digital Scholarship Services
- Technical Specialist
- Graduate Assistants (or high-level undergraduates), (2-8 @ ~20 hours per week)

Equipment/Software:

Additional (minor) technological infrastructure support may be needed. Hosting large data sets requires storage space, workstations may need to be upgraded for performance-intensive data analysis, and specialized software may be needed for data management and analysis.

Space:

Phase 2 will require additional usage of existing spaces and possible expansion to new ones. For example, the Learning Commons' Training Labs are likely to be used further to hold workshops and to provide consultation. Some services can be co-located in existing areas (e.g., consultations for digital scholarship services could take place in Liaison Services offices or in the Technology Consulting Room). Minor construction or furniture rearrangement/relocation may be needed.

Budget:

	Amount	Qty	Total	Notes
Coordinator position	\$72,300.00	1	\$72,300.00	\$60K + 20.5% benefits
Technical specialist	\$60,250.00	1	\$60,250.00	\$50K + 20.5% benefits
Student Workers	\$5,000.00	1	\$5,000.00	Variable amount depending upon number hired, rate of pay, grad vs. undergrad, etc.
<i>Staffing Subtotal:</i>	<i>\$137,550.00</i>		<i>\$137,550.00</i>	<i>Both one-time and ongoing support.</i>

Server	\$3,000.00	2	\$6,000.00	For hosting data sets and other computing needs.
High-Performance Workstations	\$3,000.00	3	\$9,000.00	
Software Licenses	\$8,000.00	1	\$8,000.00	New licenses for software not already available.
SAN Storage	\$10,000	1	\$10,000	
<i>Equipment Subtotal:</i>	<i>\$10,000.00</i>		<i>\$33,000.00</i>	<i>Servers and workstations would be on a typical 3-4 year refresh cycle.</i>
Minor construction costs:	\$5,000	2	\$10,000.00	Furniture relocation, temporary walls, addition of power/data, etc.
GRAND TOTAL:			\$180,550	

Assessment:

Phase 2 concludes when unit is established, positions are created and filled, and digital scholarship programming and services increase over baseline (established in Phase 1) by a significant percentage (75-100%).

Phase 3: Taking the Lead: Creating the Digital Scholarship Services Center (12-18 months to complete)

Phase 3 represents the key turning point in the Libraries' drive to transform research through digital scholarship services. In this phase, which would begin one to three years after the start of Phase 2, the Libraries step confidently into the role of campus leader in digital scholarship. With the addition of more staff and the introduction of a dedicated digital scholarship space in the M. D. Anderson Library, the Libraries become the recognized hub of digital scholarship activity at the University of Houston.

RECOMMENDATION:

Create a dedicated digital scholarship center within the M.D. Anderson Library and staff additional librarian/specialist positions (two, total). An increase in the student workforce dedicated to digital scholarship services may also be needed.

Estimated Cost: \$350,150

Phase 3 Services & Resources	
Description	Notes
Developing sessions for classrooms, research groups, and labs on data analysis/visualizations, data management, and digital humanities	
Building digital tools to facilitate faculty and student research/projects support	
Evaluating data management plans for faculty and students	
Student/faculty consultations on author rights and the deposit, description, access, and preservation of research data	Expected capacity is approximately 100 one-time consultations (20-60 minutes) per semester
Hosting/facilitation of campus-wide Digital Humanities Interest Group	
Dedicated space (Digital Scholarship Lab) including high-performance computers and software as well as visualization resources <ul style="list-style-type: none"> ● Training Lab ● Small Group Rooms ● Individual Consultation Rooms ● Staff offices / workrooms (as needed) 	

RESOURCES NEEDED:

Staffing:

Phase 3 requires the addition of one librarian (Data Librarian or Digital Humanities Librarian) [and possibly an additional technical specialist, depending on demand]. An increase in student workforce may also be needed.

Space:

Phase 3 requires a dedicated space for digital scholarship activities and services, including a lab that provides computers and software as well as a visualization wall. This space and equipment would allow classes, research groups and labs, and individual faculty members and students to complete data and digital humanities projects.

Budget:

	Amount	Qty	Total	Notes
Librarian position	\$72,300.00	1	\$72,300.00	\$60K + 20.5% benefits
Technical specialist	\$60,250.00	1	\$60,250.00	\$50K + 20.5% benefits
Student Workers	\$5,000.00	1	\$5,000.00	Variable amount depending upon number hired, rate of pay, grad vs. undergrad, etc.
<i>Staffing Subtotal:</i>	<i>\$137,550.00</i>		<i>\$137,550.00</i>	<i>Both one-time and ongoing support.</i>
Server	\$3,000.00	1	\$3,000.00	Possible additional server needs
High-Performance Workstations	\$3,000.00	5	\$15,000.00	Additional workstations in a dedicated space
Software Licenses	\$8,000.00	3	\$24,000.00	New licenses for software not already available.
Visualization Infrastructure	\$25,000.00	1	\$25,000.00	Computers and equipment required to support displays
Visualization Wall Displays	\$6,300.00	12	\$75,600.00	NEC models , Brown University Library
SAN Storage	\$10,000	1	\$10,000	
<i>Equipment Subtotal:</i>	<i>\$41,300.00</i>		<i>\$152,600.00</i>	<i>Servers and workstations would be on a typical 3-4 year refresh cycle.</i>

Construction Costs	\$35,000	1	\$35,000.00	Renovate existing space to create offices, consultation spaces, and/or visualization lab. More extensive construction will require additional resources.
Furniture	\$25,000	1	\$25,000.00	Figure based on prior library projects of similar scale
<i>Space Subtotal:</i>	<i>\$60,000</i>		<i>\$60,000.00</i>	
GRAND TOTAL:			\$350,150.00	

Assessment:

Phase 3 is concluded when a digital scholarship lab is completed and positions are filled. Continued increase in capacity over baseline is expected; additional measures will need to be established and tracked.

Phase 4: Transforming Research through Digital Scholarship Services (Ongoing)

Anticipated to begin two to four years after Phase 3, Phase 4 marks the culmination of the Libraries' push to transform research through digital scholarship services. Fully staffed with expert librarians, technical specialists, and highly skilled graduate fellows, the Digital Scholarship Center continues to develop innovative, collaborative research projects with both faculty and students and offers a robust suite of services to support all stages of the digital scholarship cycle. Phase 4 also marks a concerted effort to expand scholarly communication services (open access, hosted journal publishing, etc.).

RECOMMENDATION:

Cost: Unknown; DSST believes cost estimates for phase 4 would be too speculative to be of use.

Phase 4 services may include:

- Coordinating digital humanities certificate program for graduate students
- Operating full video studio

- Providing access to library-purchased or donated data sets via repository
- Publishing/hosting open access publications
- Offering "full service" consultations and outreach on author rights
- Facilitating/paying OA author fees
- Establishing collaborative, active working data research environment

RESOURCES NEEDED:

Staffing:

Phase 4 may require one additional position (e.g., Scholarly Communication Librarian).

Space:

A video studio is the only item needing a specific space in Phase 4.

Assessment:

Phase 4 is complete when a video studio is created, a position is filled, and the library has the tools and expertise to confidently engage with faculty on scholarly communication issues. Continued progress is expected on established benchmarks and goals beyond baseline.

Appendices

- Appendix A: Benchmarking Data
- Appendix B: Environmental Scan Data
- Appendix C: Coded Data
- Appendix D: Visualized Data
- Appendix E: Priorities for Digital Scholarship

Appendix A: Benchmarking Data

University	Department Name	URL	Type of Services	Notes on staffing	Special Equipment
Duke University	Data and Visualization Services	http://library.duke.edu/data/	Research Guides, Consulting, Data Visualization Services Lab, Data Acquisitions, Data Management, Comprehensive Visualization Services, Workshops, Class Instruction	7 Professional Staff, 2 Interns	http://library.duke.edu/data/about/lab
Purdue University	Research Data	https://www.lib.purdue.edu/researchdata	Data Management Planning, Metadata, Repository, Data Curation, Consultations, DOI Support	5 Professional Staff	None specified
University of Minnesota	University Library Data Management Services	https://www.lib.umn.edu/datamanagement	Support for Writing Data Management Plans, Data Management Training and Online Class, Data Repository for the University of Minnesota (DRUM)	1 Librarian, 2 Data Curation Specialists, 1 GA, and 2 faculty advisors	None specified
University of Minnesota	Digital Arts Sciences + Humanities (DASH)	https://www.lib.umn.edu/digital/dash	Consultations, Workshops, DH Project Showcase, Mobile app development, Multimodal scholarship, Desktop Fabrication, 3D Printing, and Makerspaces, Critical code and algorithm studies	9 Listed but unsure if fully dedicated solely to these services	None specified
University of Texas at Austin	Data Management at UT	https://www.lib.utexas.edu/datamanagement	Data Management Plans and Templates, Data Management Support, Data Management News	None specified	None specified
University of Texas at Austin	Visualization Laboratory	https://www.tacc.utexas.edu/vislab	Consulting, Training, User News, User Guides, and Soft/Hardware	100+, Visualization, Data Management, High Performance Computing	None specified
Yale University	Research Data Management Digital Humanities	http://guides.library.yale.edu/datamanagement	None specified	None specified	None specified
Michigan State University	Data Services Digital Scholarship Collaborative	https://www.lib.msu.edu/about/data/ https://www.lib.msu.edu/dsc/	Research Guides Quantitative Literacy Instructional Support Data Acquisitions Data Guidance (management plans, etc.) Digital Text Services Scholarly Communication Support http://www.lib.msu.edu/dsc Portal to digital scholarship services divided up into Partners Services Collections Digitization services available.	Data Services Coordinator position Subject librarians and other departments involved Team of five people on the Research Data Guidance group; also have "advisors" from Archives and Digital Information	None specified
Rice University	Digital Scholarship Services	https://library.rice.edu/dss	Open access assistance Data management plans Digital Scholarship PROJECT assistance Scholarly Communication help Digital research assistance (text analysis) Digitization and curation https://scholarship.rice.edu/ Library manages institutional repository	Departments within DSS include Digital Media Commons GIS Data Center Kelley Center for Government Information, Data and Geospatial Services.	Indus oversize scanner "Moving images workstation" "Digital Forensics workstation" http://library.rice.edu/~fondren/services/digital-curation-lab
UCLA	Center for Digital Humanities Scholarly Innovation Lab Research Commons Scholarly Communication Services	http://www.cdih.ucla.edu/about/	Services seem to be spread across multiple departments; no readily identifiable "umbrella." Services found include: Scholarly Communication Services (copyright/open access consulting) Data management plan assistance (also saw link to DMPTool from their page) http://www.library.ucla.edu/yrl/scholarly-innovation-lab-sil Meeting space and digital project assistance (but vaguely described)	Digital Humanities initiative has 35 faculty from 20 departments across campus. Library is a partner in this endeavor. Scholarly Innovation Lab is jointly run by Library and Center for Digital Humanities	None specified
University of Nevada, Las Vegas	Digital Scholarship @ UNLV	http://digitalscholarship.unlv.edu/ https://www.library.unlv.edu/services/media_services/medialab	Institutional Repository Scholarly Communications Multimedia Lab (including scanners and A/V conversion Not much for data management; only found a research guide.	None specified	Cameras, computers, etc. also other equipment such as led lights, turntables, etc. https://www.library.unlv.edu/services/media_services/medialab/equipment#other
University of Virginia	Scholars' Lab	http://scholarslab.org/ http://www.library.virginia.edu/services/ http://data.library.virginia.edu/	Scholars' Lab: "Project Incubation," open source/access software and project development Makerspace included in their "umbrella." GIS/spatial data PRAXIS program; student fellowships teaching them digital tools and scholarship UVA Libraries (Research Data Services): StatLab (data and analysis lab; assistance available) GIS services and workshops Data management plan consultation	11 staff (http://data.library.virginia.edu/rds-staff/) in Research Data Services.	Unit of library handles research software (SPSS, AMOS, etc.).

Appendix A: Benchmarking Data

University	Department Name	URL	Type of Services	Notes on staffing	Special Equipment
Emory University	Emory Center for Digital Scholarship	http://digitalscholarship.emory.edu/	EdTech support ("Toolkit" providing information and links to a variety of resources, many freely available online) GIS & data visualization consultations, classroom instruction, and project partnerships statistical data services ("assisting users with locating relevant data and with assembling those data into usable forms" training & workshops on data visualization, digital pedagogy, text analysis, blogging, online exhibits, etc. (~10/month)	30 people are listed on the "Our People" page Several staff have PhDs Most common title is "Digital Scholarship Specialist" (10 of these) Only one title includes "librarian" (GIS Librarian) One CLIR Fellow Digital Scholarship Internship Program ("graduate student training and professional development program," being piloted in 2015-16) Although they are not listed on the "Our People" page, ECDS offers weekly office hours with the Copyright and Scholarly Communications Librarian and the Educational Analyst for Video	On Macintosh Computers: Adobe Acrobat Pro Adobe Fireworks Adobe InDesign Adobe Photoshop Aquamacs Audacity Final Cut Pro IBM SPSS iBooks Author iDVD iMovie MPEG Streamclip Prizmo R RStudio SmartSVN Xcode On Windows Computers: Adobe Acrobat Pro Adobe Fireworks Adobe InDesign Adobe Photoshop ArcGIS ENVI ERDAS Imagine Esri CityEngine FME Workbench Google Earth Pro IBM SPSS Quantum GIS R RStudio SAS StataSE StatTransfer
Temple University	Digital Scholarship Center	http://sites.temple.edu/tudsc/	Office hours with various staff members one-time workshops, held in visualization room, taught by staff & grad students; workshops have strong technical focus; four workshops scheduled for November/December recurring programs, including classes in R and Python, as well as a book and game club	Four staff members: 2 art history PhD students; 1 CLIR fellow (English); and 1 "Librarian & Coordinator of Digital Scholarship Service Development"	
University of Michigan	Research Data Services Digital Scholarship Support	http://www.lib.umich.edu/research-data-services http://www.lib.umich.edu/digital-scholarship-support	Research Data Services data management planning (including DMPs) discovery & access (finding/acquiring data) data organization & management metadata & documentation data sharing & publication preservation data visualization (DataCite implementation [DOIs for data]; ORCID implementation) [initiatives of Research Unit] Digital Scholarship "help editing images, using OCR software, setting up blogs, online exhibits, or web publishing at the Knowledge Navigation Center" maps & mapping software production studios, including 3D visualization development & dissemination of digital publications (Michigan Publishing Services)	Research Data Services appear to be provided via subject librarians ("For questions about research data or to schedule a consultation, please get in touch with your subject librarian or email us [research.data.services@umich.edu].") UM also has a "Research Unit," which is made up of librarians in various discipline-based teams. Other job titles in the Research Unit are: Spatial and Numeric Data Librarian, Research Data Services Manager, Visualization Librarian, Women's Studies & Publishing Services Librarian, Map Librarian, Grants and Foundations Librarian, Research Data Curation Librarian Digital Scholarship questions are directed to subject librarians or to the Digital Scholarship Librarian Knowledge Navigation Center (support for using technology in coursework, teaching, and research) staffed by Instructional Technology Librarian & Instructional Technologist Digital Media Commons has a large staff, but only one with a librarian title (Learning Design Librarian)	Digital Media Commons (not in library but included on library website?) Advanced Podcasting Room Advanced Training Labs Audio Studio Conference Rooms Design Labs Duderstadt Gallery Electronic Music Studios GroundWorks Media Lab Multimedia Workrooms Recording Booth UM3D Lab Video Studio

Appendix A: Benchmarking Data

University	Department Name	URL	Type of Services	Notes on staffing	Special Equipment
University of Oregon	Research Data Management Digital Scholarship Center	https://library.uoregon.edu/datamanagement http://library.uoregon.edu/digitalscholarship	Research data management Archiving & Preservation Backup & Storage Data Planning Sharing/Publishing Data Technology Transfer & Intellectual Property Workshops & Training Digital Scholarship Center Web Design & Development Text-Encoding Consultation Topic Modeling Interactive Media Development Digital Exhibits Digitization Metadata Digital Preservation Digital Asset Management Credit Courses & Workshops Digital Lab "Quick Wins" Tutorials Open Access Publishing	Research data management: "provided through the cooperation of several different departments, with coordination through the Science Library" Digital Scholarship Center: staff of 18, mix of librarians, consultants, technicians, and graduate student fellows; several are listed as "based in" other library or campus departments	Presentation and Large Screen System Mac Mini booting OS X 4K HD 64" Flat Screen Teleconferencing System Mac Mini - OS X HD Webcam for Chats, Video Authoring, video blogging and more. FaceTime Software Available Includes: Adobe CS6 (includes Adobe Acrobat Pro) Aptana Studio 3 – Open Source Development Audacity Cyberduck Eclipse Figtree – Evolutionary Tree FileZilla Firefox Garage Band Gephi Graph Visualization Google Earth ImageJ Mathematica Matlab Microsoft Office oXygen XML Editor PyCharm Python 2.7.3 & 3.3 Oracle VirtualBox VLC XCode
Washington and Lee University	Data & Statistical Support Services	http://library.wlu.edu/research/data-statistical-support-services/	using documentation to verify the usefulness of data for a specific project acquiring data from the internet, government agencies, databases subscribed to by the University Libraries, etc. importing data into Stata, SPSS or Excel converting data from one format to another, e.g., SPSS to Stata merging files from various sources to create a research data file manipulating files), such as reshaping panel data from horizontal to vertical creating new variables, including dummy variables recoding existing variables running regressions preparing tables, graphs and charts	Data and Statistical Support Specialist + departmental liaisons	None specified
Brown University	Center for Digital Scholarship	http://library.brown.edu/cds/	Data curation Data management plan creation assistance Visualization GIS Metadata Creation Grant project consultation Digitization Workshops (Data management, data cleaning/manipulation, data analysis (GIS, Tableau))	Social Sciences Data Librarian Scientific Data Management Specialist Manager, Imaging and Metadata Services Digital Scholarship Services Manager Senior Digital Humanities Librarian Digital Repository Manager Associate University Librarian for Research and Outreach Services Data Visualization Coordinator	http://library.brown.edu/dsl/
North Carolina State University	Copyright and Digital Scholarship Center (GIS and visualizations are not included in this department)	http://www.lib.ncsu.edu/data https://www.lib.ncsu.edu/cdsc http://www.lib.ncsu.edu/do/visualization	Workshops on copyright and author's rights Data management plan creation Digital repository Data sharing GIS Data cleaning Visualization	Data Services Librarian User Experience Librarian for Digital Media Visualization and Digital Media Librarian Director of Visualization Services Director, Copyright and Digital Scholarship Geospatial Data Services Librarian	http://www.lib.ncsu.edu/data/data-visualization/visualizationspaces
Oregon Health Sciences University	Data	http://www.ohsu.edu/xd/education/library/data/index.cfm	Data web page provides overall information on data organizations, sharing and research impact Library staff provide assistance with building data management plans	None specified	None specified

Appendix A: Benchmarking Data

University	Department Name	URL	Type of Services	Notes on staffing	Special Equipment
Texas A&M	Office of Scholarly Communication (OSC) Initiative for Digital Humanities, Media, and Culture (IDHMC) Map & GIS Library (MGL)	http://scholarlycommunication.library.tamu.edu/ http://idhmc.tamu.edu/ http://library.tamu.edu/about/collections/map-gis-collections-services/	Copyright and fair use training (OSC) Promotion of open access journals (OSC) Digital repository (OSC) Locate and download GIS data (MGL)	Geospatial Librarian	None specified
University of Cincinnati Health Sciences Center	Not individual department	https://www.libraries.uc.edu/hsl/digital.html	Data management plan assistance Digital repository	None specified	None specified
University of Washington	Not individual department	http://www.lib.washington.edu/digitalscholarship/	Metadata consultations Preservation assistance Data services (finding data, visualization, guidance on data management plans, sharing of data sets)	Data Repository Librarian Data Curriculum and Communications Librarian Geospatial Data and Maps Librarian Digital Collections Curator	None specified
Columbia University	Center for Digital Research and Scholarship	http://cdrs.columbia.edu/cdrsmain/?q=index.php	Academic Commons (IR) Scholarly Communication Program (including research data management services, publishing best practices, OA information), Publications services (including special projects, OA journals, and monograph publishing through partnerships) Conference services (including video production and online conference management) Video services (for conferences) Wikischolars (a collaborative online space for management and sharing of your scholarly work)	Interim Director and Production Manager Video Services Manager Senior Project Manager Research Data Manager Head of Scholarly Communication Research and Scholarship Initiatives Manager Video Producer Lead Application Developer Web Developer Digital Repository Coordinator Project Manager Junior Web Developer Video Producer PMA Editor Communications Coordinator Production Assistant Interns	None specified
MIT	Data Management GIS Services Social Science Data Services Scholarly Publishing @ MIT Libraries	http://libraries.mit.edu/data-management/services/ http://libguides.mit.edu/gis http://libguides.mit.edu/ssds http://libraries.mit.edu/scholarly/	Data management plans (help create plans, assess the data management needs of project, and help identify data management solutions) Individual consultation (help individuals, labs, and centers understand data management needs and recommend best practices for keeping data usable, now and into the future) Workshops Workshops (teach how to manage data more efficiently and to share data with others) Dspace@MIT (IR) GIS Laboratory Social Science Data Service Copyright Consultation Copyright Workshops Researcher Funder Education Open Access Guide to independent publishing services Impact Factors	Program Manager for the Office of Scholarly Publishing, Copyright & Licensing Scholarly Communications Librarian Fellow in Scholarly Publishing, Copyright and Licensing Program Head, Data Management Services	None specified
Stanford University	Data Management Services Center for Interdisciplinary Digital Research Stanford Geospatial Center Digitization Services	https://library.stanford.edu/research/data-management-services https://library.stanford.edu/research/center-interdisciplinary-digital-research-cidr https://library.stanford.edu/research/stanford-geospatial-center https://library.stanford.edu/research/digitization-services	Social Science Data and Software offers data, software, workshops, and consultations for data-based social science research and teaching. Digital humanities developers provide focused project support for the Stanford scholarly community via an annual call for proposals. The DH developer team maintains a rich gallery of projects both already published and in-progress. The Humanities Text Service (Text) provides access to textual and other digital resources for research and teaching. GIS workshops GIS consultations support for collection-level digitization projects, systematic digitization, as well as on-demand requests by Stanford researchers and other library patrons Stanford Digital Repository Research data management workshops Research data management consultations	None specified	Apple Final Cut Studio Adobe Creative Suite Master Collection cameras flatbed scanners world-format VCRs dual-monitor displays

Appendix A: Benchmarking Data

University	Department Name	URL	Type of Services	Notes on staffing	Special Equipment
University of Illinois	Scholarly Communications	http://www.library.illinois.edu/sc/services/data_management/	Copyright Research Data Service Numeric and Spatial Data Services Digital Humanities Digitization Author Rights Undergraduate Research Usability IDEALS (IR) Seminars Speaker Series Workshops Classroom instruction	None specified	7 dual monitor PCs (1 in the Usability Lab) 2 Macs (1 in the Usability Lab) with a wireless keyboard and mouse 2 Lenovo Thinkpad Laptops for room-use An 11x17 flatbed book scanner (Plustek Optibook A-300) An 11x17 flatbed scanner (Epson GT-20000) An 11x17 automatic sheet fed scanner (Epson GT-20000) A 21 x 22 x 47 overhead book scanner (Book2Net) A 35mm/APS(1X240) film (Nikon Super CoolScan 5000 ED) Morae Observer workstation synced with Usability Lab 4 Gigabyte thumb drives USB Headset Microphone and stand for voice recording
University of New Hampshire	Data Services Natural Science Resource Center Geospatial Services Center Authors' Rights	http://www.library.unh.edu/research-support/data-services http://www.library.unh.edu/research-support/natural-sciences-resource-center http://www.library.unh.edu/research-support/geospatial-services-center http://www.library.unh.edu/research-support/authors-rights	Data management planning Data resources education Data accessing instruction Data acquisition consultation Publication agreement review Open Access publishing consultations Helping you locate geospatial datasets Integrating data into an existing GIS project Helping you manage files Advising on questions related to basic GIS and other geospatial software functionality Geospatial Services Center	None specified	ESRI ArcGIS software and extensions (only UNH users) Open source GIS software Google Earth ERDAS Image (only UNH users) and Multispec digital imaging software DNR GPS (Garmin) ArcExplorer LandView software

Appendix B: Environmental Scan Data

UH Libraries		
Service	Department / Unit	Notes
GIS consultations/collaborations	Liaison Services	By appointment Scheduled office hours
Data visualization consultations/collaborations	Liaison Services	By appointment Scheduled office hours
ETDs	Digital Repository Services	In conjunction with Grad School
On-demand digitization	Special Collections and Metadata and Digitization Services	
API Keys and some API support	Web Services	As needed when contacted
Data storage (no access)	Computer Systems & networking	As needed when contacted

Campus Units		
Service	Department / Unit	Notes
Grant-writing support	Division of Research and college research administrators	DoR is primarily responsible for large-scale, interdisciplinary grants; support for individual PIs is found primarily at the college level, unless no RA is in place
Grant-writing support	NSM Office of Research	http://www.nsm.uh.edu/about/administrative-offices/research-administration/index.php 3 research liaison officers (mentioned during focus group with ADs for research)

3D printing	NSMIT	http://nsmit.nsm.uh.edu/services Appears to be available to anyone, for a price (discounted for UH affiliates)
Data storage	Allied Geophysical Labs	http://www.agl.uh.edu/resources-data.php
Research support in 4 areas: <ul style="list-style-type: none"> ● design of advanced quasi-experimental studies ● application of advanced statistical models ● use of advanced psychometric models and technology tools to create research instruments ● primary data collection efforts of researchers and educators through (a) automated data entry, (b) electronic data storage, (c) computerized data management, and (d) essential reporting services 	TIMES	TIMES may charge for some services, but this isn't clear from the website
Research computing	Research Computing Center	"The RCC provides individual researchers a safe and secure environment for data and compute resources. By managing the infrastructure and shared resources in an open and transparent manner, the Center also aims to promote opportunities for researchers cooperating in inter- and multidisciplinary studies." http://www.uh.edu/infotech/about/departments/hpc/

Data-related training	Center for Advanced Computing & Data Systems (CACDS)	Classes include visualization software, Python programming, and R programming https://www.cacds.uh.edu/index.php/education/courses/
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Appendix C: Coded Data

Code	Focus Group	Benchmarking	Environmental Scan	Grand Total
Data Analysis and Visualization	17	111	3	131
Data Management Support	13	111	23	147
Data Storage and Repository Services	11	22	0	33
Collaborative Space (virtual or physical)	7	51	3	61
Clearinghouse of news (news feed)	5	38	1	44
Digital Humanities Support	4	111	10	125
Digital Scholarship Center	4	161	10	175
Scholarly Communication and Publishing Support	4	22	6	32
Digital Media Support	3	52	3	58
Equipment	3	102	3	108
Marketing and Outreach	3	38	1	42
Data Acquisitions	2	38	3	43
Altmetrics	1	0	0	1
Data Collections Support	1	58	4	63
Data Permissions	1	26	0	27

Appendix D: Visualized Data

Chart 1: Bar Chart of Coded Focus Group Data

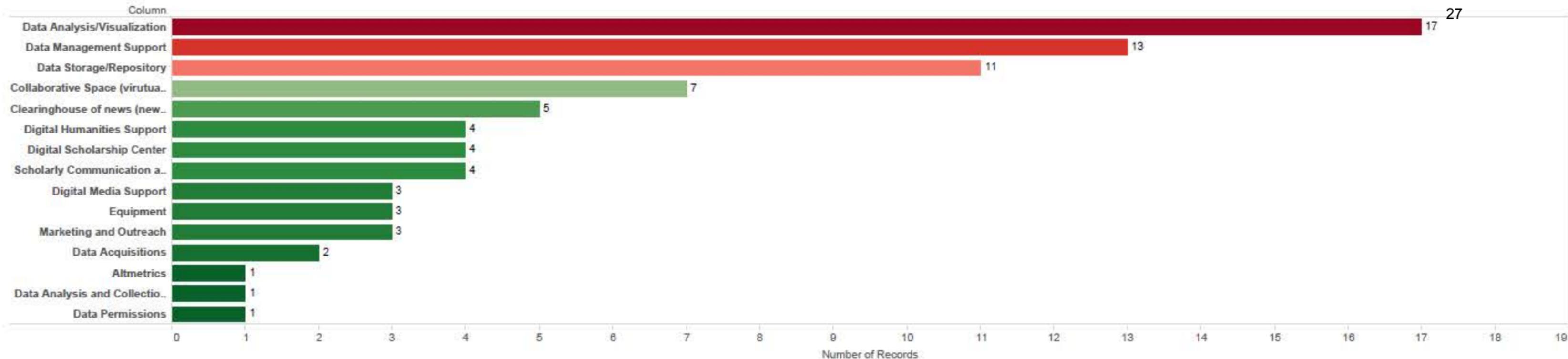
This chart graphs the responses from focus group by the categories (15 total) established by DSST.

Chart 2: Network Graph

The 15 codes and their associated categories were graphed, organizing data into the three areas seen in the graph:

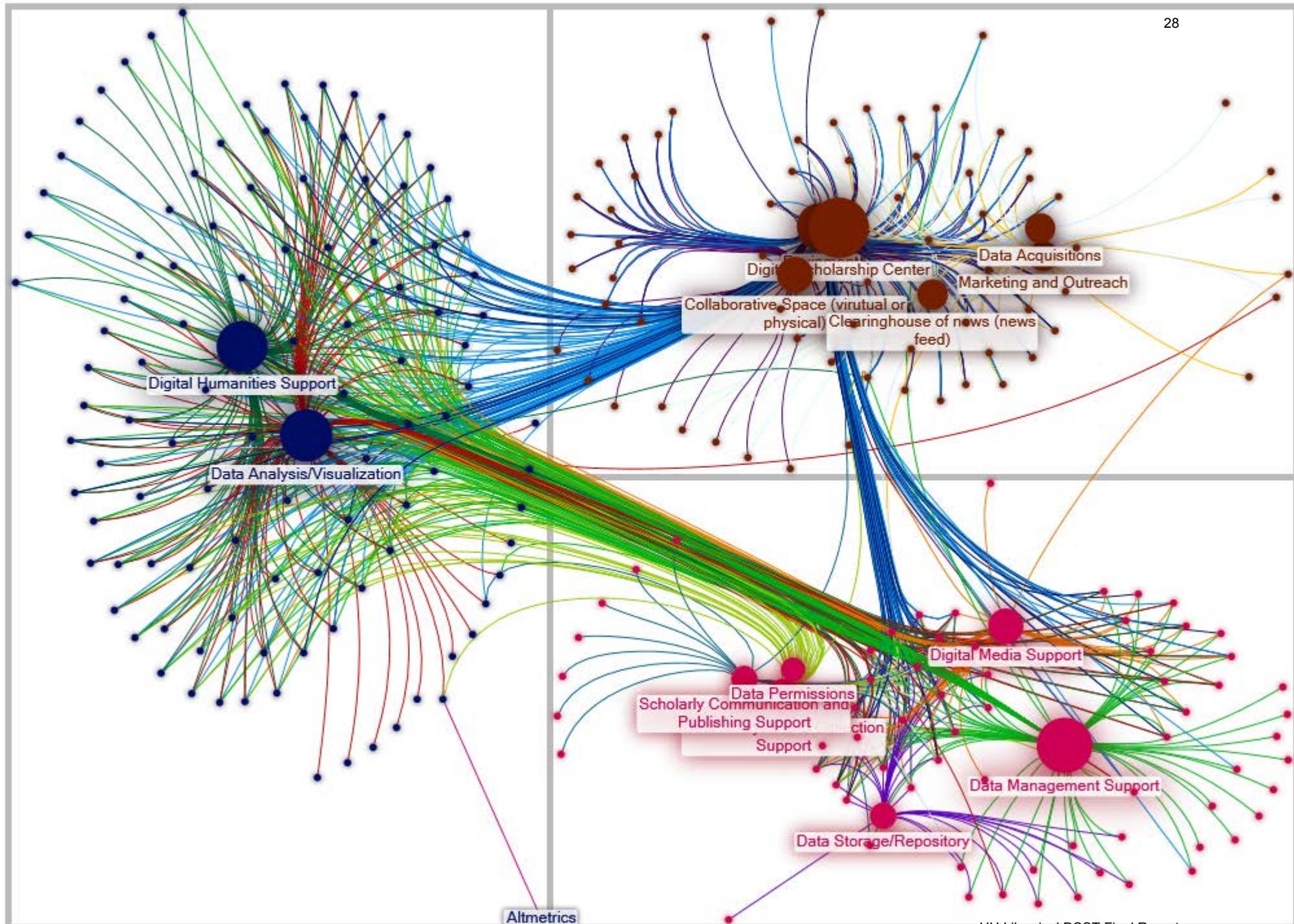
- + Data analysis and visualization (including digital humanities)
- + Data management support and Data storage and repository resources
- + Digital Scholarship Center

Counts: Focus Groups



Sum of Number of Records for each Column. Color shows sum of Number of Records. The marks are labeled by sum of Number of Records. The data is filtered on File, which keeps Focus_Groups.





Appendix E: Priorities for Digital Scholarship

Note: Some data has been modified to de-identify specific individuals.

Immediate Future: potential services and/or equipment in this category reflect what we can implement with current staffing and minimal repurposing efforts

Services

Promote ETDs in repository

Showcase digital projects that librarians/library staff have collaborated on with faculty/students

Enable acquisition and hosting of third-party datasets

Continue to collaborate with faculty/students on individual digital humanities projects

Investigate opportunities to get more value from our licensed digital content (e.g., primary source databases) by using them for digital scholarship projects

Web page(s) to create marketing "umbrella" for DSS

Consultation on data visualization

Consultation/workshops on accessing data

Current staff and minimal re-purposing would mean minimal impact. Focus on the expertise we do have, like GIS, and build that out as a first foot in the door toward a broader digital scholarship program

Assistance with analyzing and visualizing data

Assistance with content online/copyright statuses

Consultation on beginning digital scholarship projects

Data analysis workshops and consultation

Data management workshops

Digital humanities resource list (HathiTrust Research Center resources)

Data analysis/visualization

Digital humanities support

Clearinghouse of news

Data management services (limited support)

Data visualization services (limited support)

Copyright services (limited support)

Digital humanities services (limited support)

Full support for GIS and some data visualization services (we have staff dedicated to this and the infrastructure (except for physical space) in place to support it)

Metadata (limited support)

APIs for our databases, catalog, and collections (limited support)

Data Management Support curriculum could be developed and provided, and care should be taken to have open lines of communication with the Department of Research to gain their support. This may require a slight shift of focus/priorities for those involved.

A plan to integrate Datasets into the Digital Preservation Policy/Digital Collections Policy could start into motion, and budgets could be drawn to allow these things to move forward. Focusing on other Universities as models for dataset preservation would be particularly important.

I see the implementation of the immediate future as being approximately 1-2 years. The services need to be tested and developed before an infrastructure is built around them.

Staffing

Gradually increase role of librarians as facilitators of collaboration on digital scholarship (e.g., GIS/visualization IG)

Increase organizational capacity for digital services through professional development, especially of liaisons

Write funding for grad student assistants (housed/supervised in library) into grants

Recruit UNT practicum students to work on digital scholarship projects

Some classes already being taught in Tech Training program that would fit with DSS (Excel, Access, SPSS, Creative Suite)

Data Services Librarian

Digital Scholarship Librarian

Usability Specialist

Head of Liaison Services for Collections and Research Support

Coordinator for Research Support Services

Foreign Languages Librarian

Data Librarian

Digitization Services Coordinator

Metadata Librarian

Head of Digital Repository Services

Equipment

Offer data analysis/visualization software on Learning Commons and training room computers

Develop digital scholarship space in health sciences library

Space/office for data management consultation

Analysis and visualization software available already in LC

Digital media equipment available for loan

Audio engineering support available; video available at minimal level but could easily be increased

Scanners around the library

A closed off space dedicated to meeting with students that has the specialized software's needed.

May need a whole new space as a "digital scholarship center" but might benefit from bringing whatever resources we have--especially staff--more to the front of the house.

Software Applications (Adobe, GIS, Tableau, etc.)

Repositories (IR)

Repurpose several computer workstations to serve as research stations, including a wide range of statistical and analytical software that addresses the coursework and research needs of UH students and faculty. This space would ideally be open 24 hours. Test out user-requested software acquisition, if possible.

The Epson and Plustek 11 x 17 scanners mentioned in the data are quality scanners. Getting one of each and monitoring usage/traffic would be ideal.

1-2 years from now: potential services, staffing, and/or equipment in this category reflect what we can implement with moderate additional resources (including financial and personnel).

Services

Do lots of assessment to inform future phases of expansion (model used for development of Learning Commons)

Develop robust, multifaceted data management support program (consultations, training, online resources)

Implement and market UH participation in TDL data repository

Formally take the lead in digital humanities efforts on campus (e.g., partner with faculty to offer a credit course in DH)

Create/host DH interest group

Sponsor DH conference/symposium

Advocate for open access publishing

Apply for small grants

Collaborate with faculty on grant proposals (library/librarians formally written into grants)

Training program and workshops on deeper DSS skills (e.g., selecting appropriate analysis methods, data conversion, data lifecycle, metadata, etc.)

DSS "Network" with partners around the campus.

Web presence for reporting of DSS projects and connecting disparate users for cross-disciplinary research

Expanded metadata creation assistance

Expanded data visualization services

Assistance with digitizing materials

Assistance with storing and managing content

Data management support

Digital media support

Data acquisitions

Data management support and consultation (including data access and preservation)

Digital humanities workshops, support, and consultation

Funding strategy to build capacity for center

Open Access/author rights workshops, support, consultation

Will take a couple years to get our services identified, presented clearly on the website, establish workshops, training, flyers, and marketing. Take this next year to organize and plan and really start to grow the highest priority areas that we identified. Once a roadmap is in place, we can expand on that each year.

Discuss the role of existing services (multimedia lab, for example) and how it fits into role of digital scholarship. Start discussing what existing services will move into the umbrella of digital scholarship.

Staffing

Add at least one more librarian with specific digital scholarship responsibilities (e.g., digital humanities, scholarly communications)

Create high-level, professional, non-MLS positions to provide expertise in programming/coding, digital media, etc.

Develop and implement grad student intern/fellows program

Sponsor a CLIR fellow

Additional staff member needed

Most important element of a successful digital scholarship program is expertise, which would be not necessarily (or perhaps even probably) a "librarian" with an MLS (or whatever), but someone with significant research experience (a Ph.D.?) who could really be a contributing partner to digital scholarship projects, not only instructing students but co-authoring with faculty. It's a technical skill set and research-oriented mindset that is hard to find in an MLS. And that person should have a fairly robust IT setup (perhaps most everything that the Learning Commons offers) and a discretionary budget to acquire software and equipment for unanticipated projects.

Resources Curator,

Digital Curation Coordinator

Director of Digital Scholarships

Coordinator for Digital Scholarship Services (Potentially a CLIR Fellow)

Digital Humanities Librarian (Potentially a CLIR Fellow)

Digital Repository Librarian

Application Developer

Permanent library department/team

Digital humanities librarian

Technical support for repository services

Someone technical dedicated to data analysis and statistics to support existing librarians doing data visualization

Staffing and/or restructuring to bulk up Digital Humanities support may come into play at the latter end of this period.

Cross-departmental workflows and systems to make them more efficient could be in development.

Equipment

Research workspace beta project

Space within the LC specifically for DSS activities

Raising the profile of such programmatic offerings could help. I'd imagine a glass office in the Learning Commons (though that is somewhat less than ideal being tucked away behind the circulation desk) with a nice sign that is easily discoverable from the main entry and a big screen describing the services offered and examples of projects could attract and inspire users. Make it a very public presence.

Adding in a Makerspace (space & supplies)

3-D Printers

More software's/electronics/hardware supplies

Data Storage/Repository

Collaborative Space

Modular technology and furniture to facilitate collaborative projects

Repositories (Data, GIS, Digital Library)

Digitization stations

Offer more freely available online space that is accessible (not a shared network drive, but a place where people can build applications and visualizations and save their progress and access to large data sets or other info all in the cloud).

Start planning for some sort of space and in 1-2 years from have a space set up for supporting a wide variety of digital scholarship activities, from small, intimate classes on any of these topics to tech/projection for data visualization. The space would need to be somewhat modular and flexible, with the exception of the projectors/walls. But if we want something more cutting edge, we would need someone to establish relationships with companies and explore partnerships (not talking about the Development office, but an IT administrator to get this going. This, however, would take considerably longer to get to, but it's doable.

Evaluate existing multimedia/AV studios to see where new/updated equipment can be purchased.

Once services, equipment, and staffing needs are clarified over the initial two years, start thinking about spatial needs for a digital scholarship center---can something be re-purposed? Should there be an addition?

3-5 years from now: potential services, staffing, and/or equipment in this category reflect what we can implement with significant staffing and financial resources (including financial and personnel).

Services

Some services could be cost-recovery.

Perhaps with the experience of the specialist in the first couple years we will see what departments or programs most demand the services and will be able to target things like robust data management programs and high-cost technical infrastructure to meet those specific needs. Humanities would need different infrastructure than natural sciences than health sciences, so we can't anticipate or meet them all, but we'd know better how to focus--and have built the very important faculty relationships--after a couple/three years of experience.

Assistance with creating online exhibits

Assistance with creating websites

Assistance with publishing online journals

Scholarly communications

Data permissions

Fellowships for digital scholarship projects for faculty and students

Integrating Center services into classroom

Established services and staffing move to centralized location.

Staffing

Create Digital Scholarship Department

Dedicated staffing (1 director, 2-3 librarians OR prof staff with desired skills (analysis, visualization, etc.) and clerical staff (library or student) for "grunt work" help.

Application Creator

Systems Developer

Media Support Technologist

Additional functional specialists in areas of high demand (exp - digital humanities metadata librarian; consumer data curator)

Digital Scholarship Fellow in Residence

Someone dedicated to copyright

Someone dedicated to digital humanities, with others supporting it

Developer dedicated to data visualization/data management/digital humanities and digital scholarship services in general

Associate Dean for digital scholarship

Someone coordinating the direction and development of efforts between all digital repositories within the Libraries (which is currently split across multiple departments)

Someone dedicated to grants

Additional instructional technologist who would focus exclusively on digital scholarship

Metadata librarian dedicated to digital scholarship

Someone dedicated to R&D and experimentation of new tech (this would help the libraries in multiple ways, not just in digital scholarship)

More support in communications/marketing to help with capturing, explaining, and highlighting our services - Someone who does more outreach

Videographer dedicated to digital scholarship projects

Project manager that is not associated with a particular department but can help with the implementation of all new services in the library

Non-web UX person that works on the development of both physical and virtual services. the customer - or user - journey spans all areas of the library, and with so many new services being offered, paying attention to what experience we want our researchers to have when interacting with virtual and physical services and spaces is crucial to their success.

More technical support to support all the new technology

Established services and staffing move to centralized location.

Equipment

Expand space dedicated to digital scholarship (Digital Scholarship Center)

Apply for big grant(s)

Separate space for DSS center

Robust digital/data repository

Physical Digital Scholarship Center

Data repository

More machines dedicated to research and creating online publications

Large screens that can easily view the data that students are working

Digital Scholarship Center

Pilot digital scholarship center established for Health Sciences Library

Interactive digital displays in the library to highlight various digital projects, especially the visualizations. This really also ties in with the need for an interactive digital exhibit designer. That person could work with both spec call exhibits and other types of exhibits that our users are producing.

Physical plant of digital scholarship center established.

What would take a long term (5+years) investment of resources to implement?

Services

Certificate programs

What did digital scholarship look like 5+ years ago? The key to success will be solid expertise, a record of successful projects, and the ability to be agile and responsive to the needs at the time, which we probably have no chance at trying to guess today.

Creating an "official" Center (recognized by the University as Center/Institute)

Establishing contracts on how to bring in the new and remove the old and use the library as an incubator for new ideas/tech

Establish relationships with the departments that would use these spaces

Staffing

Staffing would require ongoing support of \$300K - \$400K per year (at full capacity).

Equipment

Fully equipped and staffed Digital Scholarship Center with visualization lab, teaching space, collaborative workspace, staff offices, dedicated service point

A separated physical space would require approximately \$25K-\$75K for construction and outfitting (more if a visualization studio is included).

Creating a space dedicated only to data visualization, or digital scholarship type services. This facility will include: labs, classrooms, conference rooms, and even staff spaces.

Formal space for digital scholarship (offices, labs, exhibit space, classrooms)

Visualization Wall/space

Building up the relationships with local corporations who make cutting-edge projection, visualization, and interactive equipment

Things like data visualization rooms/systems, screening rooms for films, etc. and more advanced technology that enhances the educational experience (but isn't necessarily the bones... like statistics, data visualization services, or data preservation) can be implemented with a commitment to installing within the center the more cutting-edge technology mentioned in the data---with the knowledge that what is cutting-edge at the time of this report might shift considerably 5+ years down the road. The digital is a moving target. How well we are able to adapt to the movement of that target will determine how successful we are as national leaders in digital scholarship.