

#SUSTAININGDH

WORKSHOPS ON
SUSTAINABILITY FOR
DIGITAL PROJECTS

AN NEH INSTITUTE FOR ADVANCED
TOPICS IN THE DIGITAL HUMANITIES

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PROJECT BACKGROUND

The NEH ODH Institute for Advanced Topics in the Digital Humanities entitled, “Workshops on Sustainability for Digital Projects (HT-261794-18),” or “Sustaining DH” for short, was designed to facilitate the Socio-Technical Sustainability Roadmap (STSR) for a nationwide audience of digital humanists, information professionals, and other researchers engaged in the production of public-facing digital scholarship. The STSR is a structured, process-oriented workshop, inspired by design thinking and collaborative learning. It uses project management techniques and modified professional digital preservation practices to guide participants through the process of developing a tailored sustainability plan for their digital projects. The STSR content was itself one of the deliverables of a prior NEH grant entitled, “Sustaining MedArt: The Impact of Socio-Technical Factors on Digital Preservation Strategies” (PR-234292-16), which was funded under the Division of Preservation and Access.

The STSR has been made available to the public at <http://sustainingdh.net>. In the course of creating and testing this online resource, we found that the workshop materials were particularly effective when led by facilitators who were not part of a participating project team. Specifically, we realized that directed, face-to-face leadership by someone unaffiliated with the project sharply focused the audience’s attention on the subject material in a way that was more difficult to attain when participants were simply offered the STSR materials as a self-led workshop. Based on these observations, we applied for the current grant with the objective of teaching the STSR curriculum as a series of

five, facilitated, two-day workshops for a total 125-150 participants, between November 2018 and May 2019.

Rather than host a series of workshops solely at the University of Pittsburgh, we proposed a nationwide workshop schedule, in which we would collaborate with partners at other universities to host workshops at their institutions. We hoped that this structure would allow us to not only reach a more geographically dispersed audience, but also communities that may be underserved by the current national digital sustainability infrastructure. By holding our workshops at digital humanities hubs located in strategically selected regions around the country, we hoped to bring some of these resources to new communities. Below, we briefly describe the five workshops conducted in the course of this grant.

WORKSHOPS

In the Fall and Spring terms of the 2018-2019 academic year, we conducted five workshops. Each of these consisted of two full days of in-person facilitation of the STSR. The workshop schedule that our participants received can be found in the supplemental materials. The complete contents of the workshop curriculum is available at <http://sustainingdh.net>.

University of Pittsburgh, December 10-11, 2018

At this first workshop, hosted at our home institution in Pittsburgh, PA, we convened 11 project teams, consisting of a total of 21 participants, including university faculty, graduate students, and librarians, from 14 institutions, including universities, academic libraries and archives, and independent library organizations, across 6 states, Washington D.C., and Canada.

Georgia Institute of Technology, January 17-18, 2019

At our second workshop, in Atlanta, GA, we hosted 12 project teams, made up of 25 participants coming from 16 institutions throughout 9 states and the Bahamas. Participants included graduate students and faculty from universities, including historically black colleges, librarians, and volunteers from community organizations and churches.

Oklahoma State University, February 28-March 1, 2019

Our third workshop, in Stillwater, OK, assembled 10 project teams, consisting of a total of 26 participants, including faculty, librarians, graduate students, and postdoctoral fellows from 11 universities and academic libraries throughout 7 states. At this workshop, we were also joined by NEH Senior Program Officer Sheila Brennan, who observed the program and met with facilitators and participants.

Brown University, April 4-5, 2019

Our fourth workshop, held in Providence, RI, had the highest attendance of the series, and consisted of 11 project teams, consisting of a total of 28 participants, including graduate students, faculty, librarians, and independent researchers. These participants came from 17 institutions, across 9 states, Canada, and Guatemala.

Brigham Young University, May 16-17, 2019

At our fifth and final workshop, in Provo, UT, we hosted 9 project teams, consisting of a total of 17 participants, including graduate and undergraduate students, librarians, and faculty, from 8 institutions throughout 5 states.

COMMUNICATION AND DISSEMINATION OF WORK

Prior to the Workshop

As the call for applications for each workshop was released (about nine weeks prior to each workshop), graduate student researcher Aisling Quigley sent targeted emails to digital humanities centers and individual practitioners throughout the region surrounding the workshop site. The list of email recipients was generated from the preliminary survey of digital humanities centers and scholars that we conducted during the grant-application process. Additional contacts were discovered by searching university and library websites for digital humanities or digital scholarship specialists. Recipients were encouraged to forward the call for applications within their own local and regional networks. In order to reach traditionally underserved audiences, we made a particular effort to extend our call to faculty, librarians and staff at community colleges, HBCUs, tribal colleges, and local community organizations.

After Acceptance

Upon accepting applications to each workshop, we shared information with participants through regular email updates, providing information about the workshop schedule, campus logistics, and travel and accommodation. We made information about each host site and local accommodations available on our institute website for easy reference. During this period we also sent out our pre-workshop survey, which was designed to provide us with a better sense of our participants' particular questions, concerns, skills, and comfort with regard to digital sustainability. Our project team had made assumptions about our imagined audiences based on previous research, our own experiences sustaining digital projects, and experiences testing the STSR with other project teams, and the pre-workshop survey was used to ensure that we did not rely too heavily on those assumptions as we prepared for each Institute.

We also maintained communication through the use of social media and virtual office hours.

Twice weekly, our team held office hours on both the Digital Humanities Slack team's #sustaining channel, and the Sustaining Digital Projects group on Humanities Commons. We answered questions, responded to feedback, and learned more about the experiences of our participants. On Twitter, we used the hashtag #sustainingDH for communication, documentation, and the more public sharing of thoughts and experiences, prior to and during each workshop.

After the Workshop

A post-workshop survey was shared with participants following each workshop. Responses to both surveys factor significantly into this white paper, which constitutes a primary method of disseminating our findings and reflecting on our experiences facilitating the workshops. (Further insights into the latter will also be made available in our forthcoming facilitator's manual, detailed in Project Outcomes). We have continued to communicate with previous participants, most frequently through email or on Twitter.

Members of the Sustaining DH team have also shared reflections and findings from the workshop series in other scholarly and professional settings. Alison Langmead spoke about her experiences offering these workshops on a panel entitled, "Infrastructure and Capacity Building for Sustainable Digital Projects," presented at July's Association for Computers and the Humanities (ACH) 2019 conference. Chelsea Gunn attended the National Endowment for the Humanities meeting, "Changing Institutional Culture: Moving Toward a Model of Sustainable Digital Infrastructure," held in Washington, DC on August 15, 2019. Based on the findings of the workshop series, Alison Langmead delivered a keynote entitled "Sustainability is Not Preservation" at the 2019 National Digital Stewardship Alliance's Digital Preservation conference on October 16. It is our intention to continue to participate in these types of ongoing, public conversations about digital sustainability with a variety of stakeholders.

AUDIENCES

INTRODUCTION

In the STSR, we dedicate a module to the archival concept of designated communities. These are the groups of people that must be kept in mind when making decisions about the aspects of a digital object or project that will be preserved. In other words, we ask our participants: who is your project designed for?

We have also asked these questions of ourselves--first as we developed the STSR, and subsequently as we facilitated the workshop series. As indicated on the STSR website, this curriculum was originally designed for use by scholars and practitioners whose work has taken the shape of web-based, user-facing digital humanities projects.

We imagined that these may be university faculty, librarians, archivists, and others working within cultural heritage and research institutions, including museums, historical societies, and nonprofit organizations. Though we hope that these materials will be useful to many more people in ways we might not have imagined ourselves, these are the users which we consider our designated communities, and whom we will keep in mind as we make sustainability decisions about our own work and its various manifestations. We also kept these audiences in mind when determining how and where to promote each call for applications.

GEOGRAPHIC REACH

When designing our workshop schedule, we proactively selected locations that would make the workshop accessible to participants who live and work beyond the traditional major US metropolitan areas, such as New York and Los Angeles. These locations have, historically, already benefited from an abundance of programs and resources. Our intention was to hold each workshop in an area that would be more geographically accessible to people in the immediate surrounding region, beyond the campus or city in which the workshop was facilitated. Figure 2 illustrates our geographic reach. As the figure shows, we have brought the workshop to sites spread throughout the country, with the

exception of the Northern Midwest, though we have had participants from the Midwest travel to other workshop sites. Geographically, our group of 117 participants came from 28 states, Washington DC, Canada, the Bahamas, and Guatemala. Figure 3 depicts the breakdown of states and countries our participants traveled from. Overall, the states in which our workshops were located were most highly represented, with Pennsylvania being the state with the most workshop participants overall. The only exception to this trend was in Rhode Island, where a significant portion of our participants came from nearby, clustered New England states.

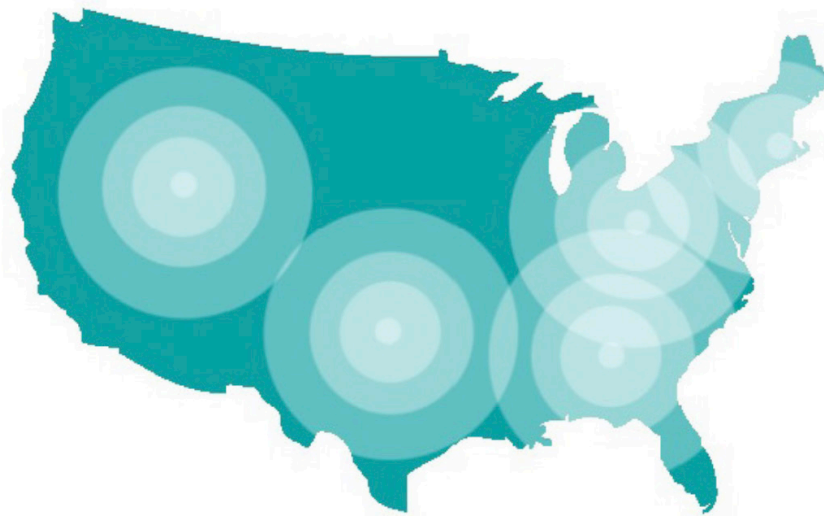


Figure 2. Visualization of the sites and surrounding regions of our five funded workshops. Created by Aisling Quigley.

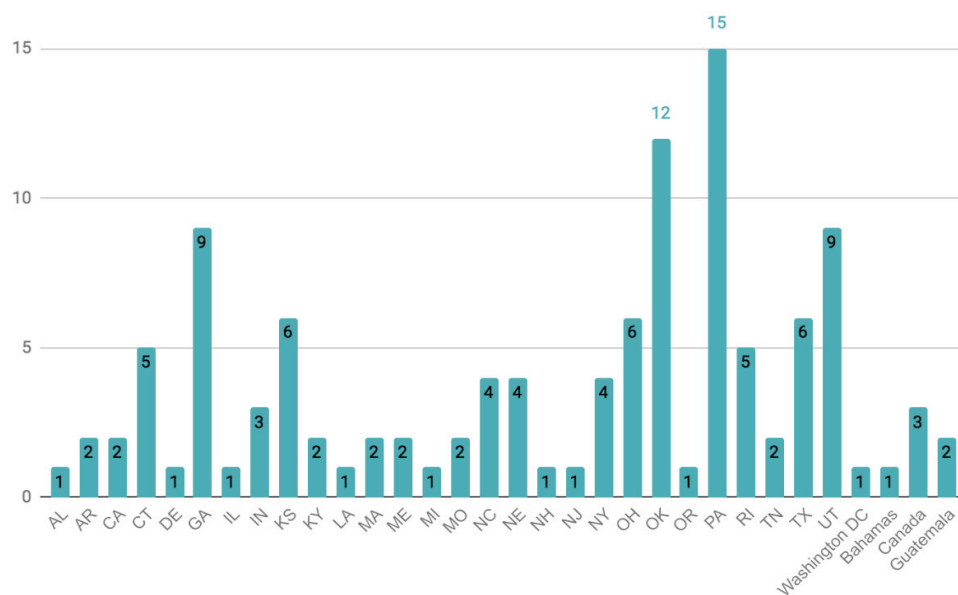


Figure 3. Locations from which our 117 participants traveled to attend workshops throughout the year.

ATTENDEE PREPAREDNESS

A majority of participants came to the workshop with at least some understanding of digital sustainability, though their degrees of understanding varied. In our pre-workshop survey, we asked incoming participants to rank their understanding of sustainability as it relates to digital projects. Of the 104 respondents to our pre-workshop survey, 4 stated that they had “no understanding at all,” 51 stated that their understanding of this area

“needs improvement,” 28 felt that they had an “acceptable” level of understanding, 20 felt that they had a “very good” understanding of sustainability in this area, and a single respondent did not answer this question. No respondents indicated an “excellent” level of understanding.

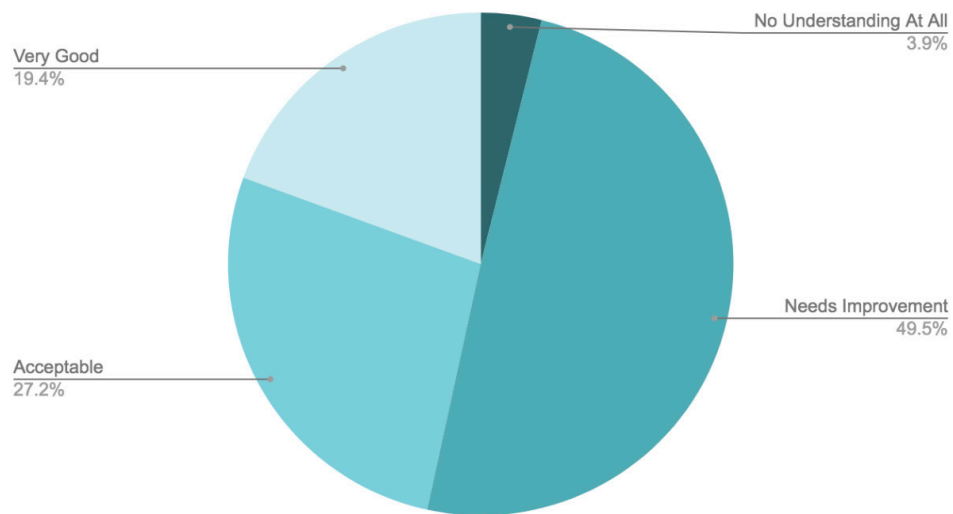


Figure 4. Responses to our multiple choice pre-workshop survey question “How would you rank your understanding of sustainability as it relates to digital projects?” (Based on 104 total responses.)

PROJECT TYPES AND TOOLS

Reviewing our complete list of participants and their projects across all workshops, we observed that a vast majority of project teams had started with user-friendly digital humanities tools (such as WordPress or Omeka) and were in the process of transitioning or scaling the project up using new platforms and tools. We also observed that the overall breakdown of participating projects resembled the distribution shown in Figure 5. Here, it is important to note that these categories are general and not mutually exclusive. For example, some digital exhibitions included GIS visualizations or oral histories, while some text encoding projects might also be considered a database of primary sources. With this classification, we did not seek to strictly define each project, but rather to identify a loose type that might best define the overall project in order to begin to understand what our participants were working on and with, recognizing that project categories are, more often than not, porous and overlapping.

A more descriptive and free-form visualization of the types of projects and technologies that we encountered throughout our five workshops can be seen in Figure 6, which depicts the words used to describe projects during our lightning project introductions, a part of Section A of the workshop. These brief project descriptions included a discussion of technologies used in each project, the content that they contained, related subject areas, and sustainability concerns and motivations for attending the workshop. In addition to reinforcing our initial impression that a majority of projects were digital exhibitions or databases of primary sources, these conversations also revealed to us that many projects involved the digitization of archival sources, the creation of oral history collections, and/or a pedagogical mission. Another significant theme was that many projects were in a moment of transition - the word “changing” was used with high frequency in these lightning rounds, at times in connection with technologies, at others with team members, and still at other times with connection to funding or institutional resources.

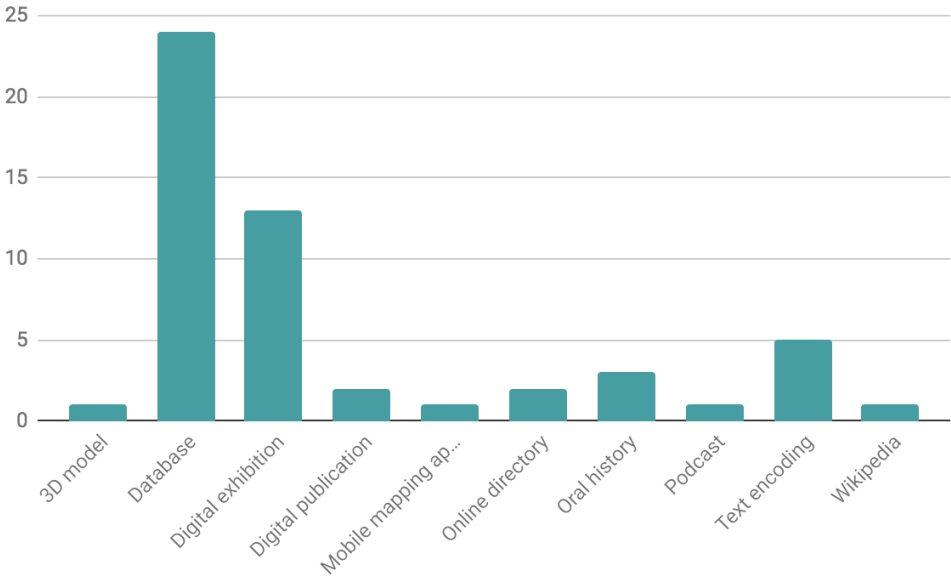


Figure 5. Overall spread of primary project types across all five workshops.

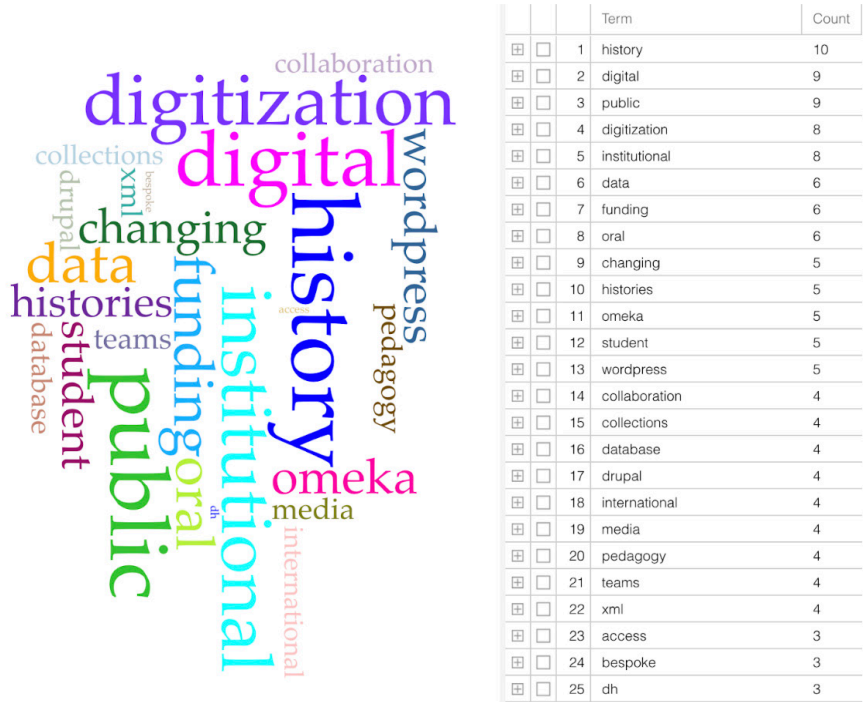


Figure 6. The 25 most frequently used words in recorded descriptions of projects during lightning introductions, throughout all five workshops, visualized here in a word cloud and list of terms in order of frequency.

A SNAPSHOT OF CURRENT DIGITAL SCHOLARSHIP

The experience of facilitating these workshops allowed us to meet over 100 individuals engaged in the digital humanities, providing a snapshot of work that is being done nationwide. In particular, we appreciated that we had an opportunity to learn more about smaller-scale, localized work which may not have reached us in Pittsburgh otherwise. While we recognize that the above is still a small sample, relatively speaking, and not representative of the full national or international digital humanities landscape, we feel that it is nonetheless illuminating, and may be useful to others interested in developing educational programs, resources, new tools, or other DH infrastructure.

We received projects we knew and projects we did not know. We were surprised by the large number of Omeka projects and by the number of oral history projects. We saw large projects and small projects. Long-established projects were there as well as projects that were only in the early planning phase. We were (happily) unable to draw any firm conclusions about the “type” of project interested in digital sustainability, but we would say that it is our gut instinct that the projects that took the time to apply and attend this two-day workshop were deeply invested in their content, which was often closely connected to their community. Often, these projects were a labor of love; very few, if any, participants were encouraged to do DH work by their superiors. Indeed, many of these projects were developed and sustained in spite of the absence of institutional support.

We also observed a range of attitudes toward the technological aspects of producing digital humanities projects. In partic-

ular we noted that significant number of project teams brought a greater interest in creating community than a dedication to any particular technology. Rather, the technology was the mechanism by which they were building a community, rather than the focus of the work in itself. People, rather than tools or other technologies, were the driving forces for much of this work. Those teams that were engaged in technologically complex work, but whose technologist was not present at the workshop, required more instruction and support from facilitators. However, we also noted that there were other teams who took the opposite approach, letting the technology drive their decision-making processes. These groups were not as common, and we observed that they were frequently those teams working on XML-focused projects. Related to this, we also noted that project technologists were not always able to attend our workshops, with the technologist-heavy participation at the University of Pittsburgh and Brigham Young University being notable exceptions to this trend. We note, in this vein, that BYU is also exceptional in that it has a dedicated digital humanities department, indicating a higher level of investment in the field. Overall, we observed that the technologists who did attend the workshops seemed to appreciate the opportunity to talk in depth about the work that they do with their colleagues, as well as with the group at large. It seemed to be something they craved. Observing these conversations in action has bolstered our belief that when content and technology are placed on a more equal footing, projects change and progress in meaningful ways.

ASSESSMENT

Throughout the granting period, we evaluated our work in several ways. These included in-person observation and conversations during workshops; weekly virtual office hours on Slack and in our Humanities Commons group; following the #sustaining-DH hashtag on social media; and collecting information and feedback through pre- and post-workshop Qualtrics surveys with our participants (our survey instruments can be found in the supplemental materials). Below, we discuss several themes which have emerged across these various forms of feedback collection and assessment. We include anonymized references to and direct quotes from participants' comments throughout.

Responses to the workshop, both in our assessment surveys and in individual comments from participants, have been overwhelmingly positive. Both quantitative and qualitative assessments suggest that attendees left the workshop with a stronger understanding of what it means to sustain a digital project over time and how that knowledge can be productively applied to their own work. As illustrated in Figure 1 in the supplemental materials, of the 62 respondents to our post-workshop survey, 51 reported a significant increase in their understanding of the process of sustaining digital humanities projects after the workshop. An additional 8 reported a slight increase, and 3 did not answer this question. In response to our question of whether or not the Sustaining DH workshop responded to the primary digital sustainability concerns and/or questions participants brought to the event, 56 responded positively, and 6 did not answer the question. Participants also indicated that they left with new skills, particularly in the areas of project management and documentation. Many attendees also observed that this experience provided them with the language needed to communicate with interdisciplinary partners and stakeholders.

We were deeply pleased to learn that a number of respondents felt that their expectations had not only been met but exceeded. "It answered my questions and went beyond them," one participant wrote. Additionally, several respondents indicated that the workshop not only addressed their primary concerns, but raised new ones, making them "aware of issues[they] weren't even thinking about," as one participant from the University of Pittsburgh workshop wrote. Others acknowledged that they had not come to the workshop with specific concerns, but instead a very general sense that this was something that needed to be addressed. As one participant wrote, "as I knew nothing about digital sustainability before this, my primary concern was to learn what it was and how to think about it - which I did accomplish." A participant from the workshop at Oklahoma State University responded that, "the workshop answered most of our questions, and gave us the direction to find the remaining answers." In reading responses to the post-workshop survey, we observed a trend: many participants were not exactly sure what they were looking for when they came to the workshop, but left with a stronger understanding of digital sustainability and how to work toward it within the context of their own projects.

Further, several of our participants suggested that the STSR was particularly useful to them for overall project planning and management processes, particularly for those who were in the early phases of project development. One reported that, "although we are still in the process of defining our project and not entirely sure of specific digital needs at this point, the workshop helped us focus on the questions we need to be asking." Another participant wrote that, "I really needed this roadmap before I started this project, as I learned from a past one that I had not thought far enough ahead. This really gave me the skills and path to follow." The STSR was designed to be applicable to projects in all phases of development, but its strength during the early or planning phases became especially apparent to us throughout the series.

FINDINGS

THERE IS A CONNECTION BETWEEN SUSTAINABILITY AND TRUST

Throughout the past year, we have come to believe that sustainability is largely about trust. By this we mean trust in people, technologies, and institutions. Sustainability relies upon each team member's sense of trust that their collaborators will continue to perform their roles within the project, and/or that if the same collaborators can no longer participate, new collaborators will be able to carry out their responsibilities. Projects often rely upon such tacit understandings of contributor responsibilities and longevity of involvement. We also suggest that sustainability relies upon a project team's sense of trust that the tools and technologies used in their project will continue to be available. In the process of documenting those technologies, participants repeatedly expressed surprise at the realization that service providers are, for all intents and purposes, members of their teams. The trust that they were placing in those services, in other words, became more apparent. And finally, we believe that a project team must trust that there will be some degree of institutional support for their digital scholarship.

This third form of trust, between an institution and a project team, was a particular concern for many participants. In the word cloud in Figure 7 in the supplemental materials, which visualizes the sustainability concerns of participants prior to coming to the workshop, words like "support," "infrastructure," "university" and "institution," figure prominently. At the end of each workshop, in discussions about common sustainability red flags, concerns about university or institutional support (or lack thereof) as differentiated from short-term grant support, were raised repeatedly. Our participants cited as a basis for these concerns the wide range of forms of support which they rely upon in order to move their digital scholarship forward, including, but not limited to, time allotted to the project, library and research resources, and technological resources like server space and technical assistance. Engendering trust that necessary resources will continue to be available is vital to the process of ongoing digital sustainability.

THE "SOCIO" IN SOCIOTECHNICAL IS, PERHAPS, EVEN MORE CRITICAL THAN THE "TECHNICAL"

Responses to our pre-workshop surveys revealed a great deal of concern for technical processes and details. These technologies ranged from digital humanities tools and methods, including, per one response, "GIS mapping, visual storytelling, website design" to professional digital archiving processes such as "how to package digital information together (e.g., SIPs to AIPs)." As illustrated in Figure 7, words like "technology," "technical," "platforms," and "data" appeared frequently in

participant responses prior to the convenings.

During the workshops and in our post-workshop evaluations, however, we heard repeatedly from participants that it was the interpersonal and project management aspects of the STSR that had become particularly valuable. This is to say, while many had applied with questions and concerns that centered around technologies, post-workshop feedback suggested that participants understood

sustainability to be about articulating specific goals; understanding users and their needs; consolidating technical processes, documentation, and communication post-workshop feedback suggested that participants understood sustainability to be about articulating specific goals; understanding users and their needs; consolidating technical processes, documentation, and communication strategies; and making interdisciplinarity the default. And of course, as participants frequently observed, sustainability is, quite simply, work.

Since such socio-technical concerns are the main focus of the STSR, we would imagine participants may not have felt comfortable reporting otherwise! However, we also feel that this demonstrates that our argument, as presented in the Socio-Technical Sustainability Roadmap, is persuasive. Post-workshop discussions and surveys prominently repeated words frequently used in the STSR, suggesting a taking-up or acceptance of our proposed approach to sustainability. These instruments also did not reveal any complaints from those participants who imagined a more

technical curriculum. Indeed, a number of participants were even relieved to learn that this process is indeed more socio-technical than purely technical.

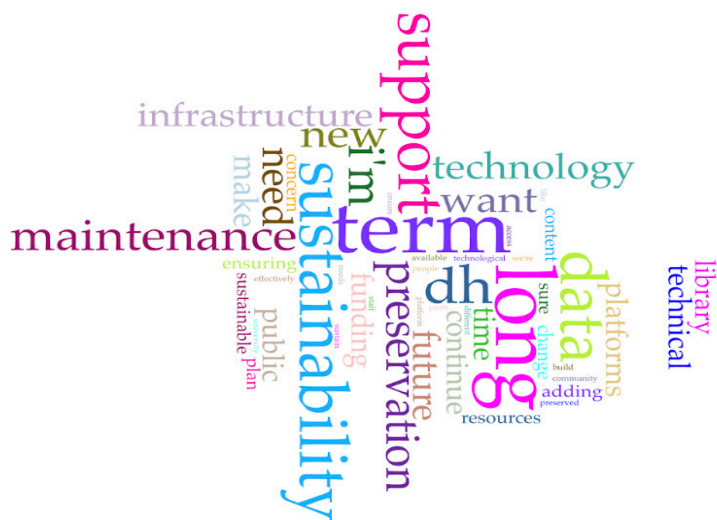
Not only is the social element important to the work of sustainability, but some participants told us that they realized it was perhaps more central to their own project's goals than was the project's digital manifestation. As one participant wrote in their post-workshop survey, "We realized that the project is less about technology, and more about maintaining relationships and long-term strategies about responsibilities and ongoing communication." Similar responses from many participants suggest to us that the procedures associated with digital sustainability might be particularly effective when social and non-technological aspects are given as much attention as technical processes. We feel these responses reflect a central tenet of the STSR, which is: when you take the time to trace how a project comes to life, the people are both the priority and the largest sustainability red flags.

PARTICIPANTS VALUED FACE-TO-FACE TIME WITH COLLABORATORS

Without exception, one person per convening reported that simply having dedicated time to meet, talk, and work on their project with their collaborators was utterly invaluable. As one participant summarized in a tweet, "#sustainingDH was probably the best workshop I've attended in my career. They gave us things to think about and time to think about them. Better: They gave us time to work on those things in our own projects." In their response to our post-workshop survey, another participant wrote, "I had an ulterior motive of trying to get my team together to talk deeply about

the project; the workshop absolutely facilitated that and went above and beyond what I ever could have hoped for."

We believe that the NEH's power in this regard is nothing short of magical. To participate in an NEH-funded institute bestows value on a meeting. To spend two days working closely on a single project without the endorsement of a revered institution would be otherwise much more challenging--even impossible--to justify. Of course, the added fact that we were able to provide bursaries to participants who had to



		Term	Count
1		long	16
2		term	16
3		sustainability	13
4		data	12
5		support	12
6		dh	10
7		i'm	9
8		maintenance	9
9		preservation	9
10		future	8
11		infrastructure	8
12		need	8
13		new	8
14		technology	8
15		want	8
16		continue	7
17		funding	7
18		library	7
19		make	7
20		platforms	7
21		public	7
22		technical	7
23		time	7
24		adding	6
25		change	6

Figure 7. The 25 most frequently occurring words used in responses to the pre-workshop survey question "What is your primary concern and/or question when it comes to the sustainability of your digital project?" visualized here as both a word cloud and list of terms in order of frequency.

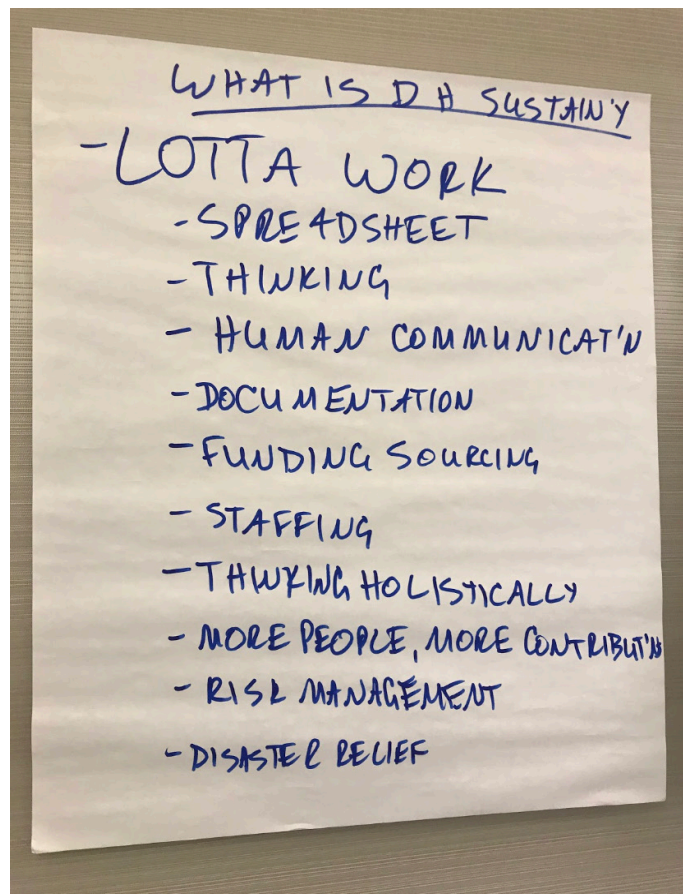


Figure 8. Responses to the question "What is DH sustainability?" posed to participants at the end of the workshop in Atlanta, GA on January 18, 2019.

travel from out of town or state was undoubtedly another mechanism that helped to enable and support these team meetings. However, in the course of our two-day workshops, we watched as participants remembered how valuable and productive face-to-face time

with their collaborators was. As we saw this occur, we, too, were struck by the realization that dedicating time is an immense privilege, and one that busy schedules and competing responsibilities rarely afford.

THERE IS SPACE IN THIS INFRASTRUCTURE FOR MORE RECORDS MANAGEMENT

As information professionals, and specifically as archivists, we recognize the value and impact of records management. However, as records management tends not to be the most glamorous or exciting aspect of a project, this was an area of the STSR which we anticipated some resistance to, or at the very least, slight disinterest in. We were delighted to have been proven wrong in our assumption. Our experience facilitating these workshops has suggested that many people actually crave records management advice/training/conversations. One participant wrote in a post-workshop survey that, “discussing research data management planning more in-depth might be helpful (or could be a supplementary workshop).”

Discussions at the end of each workshop and post-workshop survey responses both demonstrated an easy acceptance of project documentation and records management principles. One participant wrote that the workshop helped them to more fully realize “the need to write all of this up in a clear project plan with lists of how this is being done, where items are to be stored, backups etc.” Indeed, as indicated in Figure 9, “documentation” was the second most frequently occurring word in responses to the survey question about the skills, tools, and techniques that participants found most helpful. As the STSR argues, and our attendees also agree, effective project sustainability relies on effective project documentation and records management. Further training in these areas would be beneficial even to experienced contributors to longstanding digital projects.



		Term	Count
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1 helpful	13
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2 documentation	10
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3 useful	10
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	12 data	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	13 identifying	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14 plan	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	15 planning	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	16 process	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	17 significant	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	18 step	5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	19 components	4
<input checked="" type="checkbox"/>	<input type="checkbox"/>	20 roadmap	4
<input checked="" type="checkbox"/>	<input type="checkbox"/>	21 sites	4
<input checked="" type="checkbox"/>	<input type="checkbox"/>	22 spreadsheets	4
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	24 workshop	4
<input checked="" type="checkbox"/>	<input type="checkbox"/>	25 access	3

Figure 9. The 25 most frequently occurring words used in responses to our post-workshop survey question “What are some specific skills, tools, and/or techniques that you learned from the workshop that you found particularly helpful?” visualized here as both a word cloud and a list of terms in order



Figure 10. "Sustainability Red Flag" meme created by participant Dr. Holly Hamby. <https://twitter.com/drredvelvet/status/1086318135236415488>.

PROJECT TEAMS ARE HIGHLY TRAINED IN THEIR INTELLECTUAL PURSUIT BUT DEMONSTRATE LESS FAMILIARITY WITH PROJECT MANAGEMENT

We also learned that these project teams could benefit greatly from learning basic project management skills. For example, we observed that many teams had not previously identified all of their project stakeholders. Section A of the STSR is, at its heart, project management training and all teams, even the most established, seemed to benefit from it. Section B, in which teams map their available staffing onto the necessary technologies of their project, also serves to bolster project management knowledge. Participants responded to our post-workshop survey with acknowledgment of the value of doing this mapping work, with one respondent noting that, “working with the Excel sheets to organize information about actions and resource allocations was most helpful,” while others noted the value of “making the maps of all of the people around the project and their roles in every activity,” and “thinking specifically about the different needs of constituencies and mapping them onto specific features/technologies/staff/documentation.”

In particular, the archival concepts of “designated communities” and “significant properties,” once explained to our audience, seemed to resonate as well. For example, many project teams were working with their imagined users, rather than known users, in mind. That is to say, few project teams reported having completed user studies or testing. When this happens, it can be difficult to identify priorities for a public-facing project, leading to confusion about what is most important to sustain.

The process of writing down both known and imagined users, and thinking about which aspects of the project might be most meaningful to them, generated a great deal of discussion and energy at each workshop, leaving us with the impression that there is a deep need for conversations about digital sustainability to incorporate more project management methods, including user testing.

Similarly, workshop participants were sometimes surprised by the significant properties that they identified through the process of assessing their project’s sustainability priorities. These properties, or the characteristics critical to a project’s intellectual and technical goals, were not always obvious nor always held in common by all members of a team. Through these (seemingly) project-management-focused discussions, the teams were able to have deep conversations about their intellectual, technical, and publication goals. Asking participants to identify significant properties individually before sharing them with their collaborators generated particularly productive discussions around this previously unfamiliar concept.

THINKING OF SERVICES (FREE OR OTHERWISE) AS PART OF THE TEAM PROVED TO BE A USEFUL STRATEGY

In Section B: Staffing and Technologies, we asked participants to list all of the people and all of the technologies on which their project depends. As they did this work, we suggested that they think of the services they use - from GitHub to Omeka to the Google suite of tools - not only as technologies that they employ, but also as members of their project teams because, without the many people and technologies behind these services, their own projects become less viable. This was an idea that was well-received by participants, even if it also frightened them. They reported that considering technologies in this way opened their eyes to the many, often invisible, actors on which their work depends.

One participant wrote in their post-workshop survey that, "I think we have a better understanding of the necessary infrastructure for the

project (both in terms of technology and personnel) and a broader perspective on relevant issues." Another responded that, "the most significant new understanding came from fully considering the relationship between technologies and the individuals who sustain those technologies. This seems obvious in retrospect but in practice, it's easy to forget and deprioritize this relationship and to overly focus on the technologies." The reality of our world is that we place our data (and our trust, as noted above) into the hands of companies whose missions and goals do not include long-term stewardship. While we by no means recommend an abandonment of those tools or platforms, we believe it is not only helpful, but critical to the project of sustainability, to consider and articulate precisely the roles they play in a project, and the ways in which one's work would be changed without them.

TALKING ABOUT SUSTAINABILITY "RED FLAGS" RATHER THAN "PROBLEMS" IS IMPACTFUL

In the course of conducting the workshops, we came to describe those areas that project teams would want to pay particular attention to in their sustainability planning process as "sustainability red flags." This term became something of a meme throughout the workshops (indeed, one participant actually created a meme, shown in Figure 10 in the supplemental materials). We found that the "red flag" was a concept that our participants understood and accepted easily, perhaps in part because it is phrased in such a way that it releases stigmas of risk or failure.

We continue to feel it is critical to emphasize that there is no project

that lacks sustainability red flags. These are not weaknesses or failures, but rather the inevitable side effects of creating scholarship in the digital space. By directly acknowledging this fact during the workshop, it was almost as if we had removed a roadblock in the project teams' thinking that then allowed them to think more pragmatically about how to identify the red flags present within their own projects, and, more importantly, to consider how they might address them. It was a framing that released guilt, and helped the group move past unreasonable levels of self-expectation.

CALLING OUT STUDENT LABOR AS A SUSTAINABILITY RED FLAG IS IMPACTFUL

Of the 55 projects that were brought to the Sustaining DH workshop series, nearly 20% were explicitly pedagogical in nature, by which we mean they were directly affiliated with a specific college-level course or a group of student workers. Many additional projects relied upon student labor, at both the undergraduate and graduate levels, in less primary or obvious ways. This ranged from providing short-term volunteer experiences or internship credits for actions like transcription and metadata creation, to employing graduate student assistants for multiple semesters or even years. In all of these cases, the presence of student labor, which is by nature short-lived, came to be understood as one of

the most prominent sustainability red flags. This is by no means meant to indicate that students should not contribute to digital projects in meaningful ways, even for brief periods of time. However, we feel it is important that project owners recognize the scope, goals, and impact that student contributions make in order to prevent problems when students move on from a project, which they inevitably will. Part of this process included articulating - and documenting - the specific roles and contributions of student workers and proactively planning for the staffing turnover that they represent. This work can also be fundamental to the practice of equitable labor practices in academia.

CALLING OUT GRANT FUNDING AS A SUSTAINABILITY RED FLAG IS IMPACTFUL

Many of our participants mentioned funding as a concern in their pre-workshop surveys, as illustrated in Figure 7 in the supplemental materials. One participant summed up this red flag succinctly, writing: "A common thread at DH conferences I've been to lately has been 'we can't run DH as a startup forever,' and yet we're locked into various boxes - short-term grants, limited institutional funding... If we want our digital projects to accrue the same cachet as scholarly monographs, how can we build long-term, stable, and citable projects?" Another participant came to the workshop with the hope of gaining "skills related to sustainable funding." Indeed, in our ongoing discussions about sustainability red flags, funding was a frequent topic. Grant funding is, indeed, a prominent sustainability red flag when it is relied upon as a sole source of support.

As with all sustainability red flags, we are not advocating that project teams abandon grant funding altogether. However, it is worthwhile to note that grants do motivate people to think about "endings" and they tend to be "abrupt endings," rather than "natural endings." Reassessing pervasive impact of short-term grant funding on the digital humanities, particularly funding that associated with specific deliverables, is vital to the process of digital sustainability. Since completing this round of workshops, our research team has been invited to discuss the relationship between funding models and sustainable digital humanities infrastructure with the NEH and other agencies. We are pleased to see that these discussions are taking place, and look forward to following and participating in continued exploration in these directions.

THERE IS ROOM FOR MORE DISCUSSION ABOUT ENDING PROJECTS

The STSR is designed to be revisited every three years. In Module A2, we ask participants to choose one of three periods of longevity. They can state that their project is intended to last fewer than three years, more than three years, but with plans for eventual retirement, or more than three years with no current plans for retirement. Importantly, regardless of whether a project is intended to last five years or fifteen, we recommend revisiting the STSR in three years in order to reassess project details, goals, and requirements. As with the inclusion of records management in the workshop, we had anticipated some resistance to this proposed schedule. Again, to the contrary, this approach brought expressions of relief rather than frustration.

In one pre-workshop survey, a participant wrote that their primary concern was, “what happens once a digital project is done. How are maintenance, storage, funding, and collaborative entities taken into consideration? Who is responsible to guarantee long-term access?” Another participant, wrote in their pre-workshop survey that they hoped to learn how to end their project, as periods of grant funding for the work was coming to a close. Overall, concerns about how to sustain digital projects for the long term (the phrase long-term can be found frequently in pre-workshop surveys, as illustrated in Figure 7 in the supplemental materials) were more common among our participants prior to working through the STSR than afterwards, suggesting that our emphasis on an iterative, three-year cycle of revisiting project goals may have been persuasive and widely accepted.

Moreover, the idea that a project need not last forever to be successful seemed to be a relatively liberating one for our participants, and revisiting sustainability plans on a three-year basis seemed a reassuring path forward. One participant wrote that, “keeping in mind that DH lifespan and book lifespans are different, was a phenomenal aha moment,” and another that a major concern going into the workshop had been, “about the expected duration of digital projects, which can be an overwhelming thing to think about, but the workshop’s focus on 3-year intervals turns this into such a manageable question.” It is worth considering that there is still a common perception that a “successful” digital project is one that lasts indefinitely, or at least as long as a book lasts.

The overwhelmingly positive response to this aspect of the STSR suggests to us that more attention might be paid to the actual, reasonable, expected life spans of digital projects. In addition, a focus on practical strategies for determining how long a project ought to last, and how to end it when that time comes would be useful. In the course of developing and facilitating the STSR, we have identified several recent initiatives that have begun to address some of these issues, including The Endings Project (<https://projectendings.github.io/>) and The Sunsetting Book (<https://ronallo.com/sunsetting-book/>). These projects are linked on the STSR website, and we hope they will be of use to project teams.

THERE IS ROOM FOR MORE ANALYSIS OF THE ROLE OF LIBRARIES AND LIBRARIANS IN DH

In our discussions, we found that the role of the library - and, significantly, of librarians and archivists - in the digital humanities is still fluid and flexible, even now in 2019. Throughout the past year, we met with project teams that included librarians as core collaborators, those that worked with librarians as auxiliary members or consultants, and some that envisioned information professionals as the long-term stewards for projects when they are completed. Some projects were situated within libraries or library-based labs, and appeared to benefit from the support of that infrastructure, which can provide hosting services, technological resources, and staff expertise.

There has been considerable scholarship on this topic, particularly in venues such as DH+Lib, but our experiences during the Institute suggest to us that there is room to critically assess the roles that libraries and information professionals play in the digital humanities. Which of these roles are most effective? Does it depend on the skills of the information professionals or the administrative superstructure in which they work? Many librarians and archivists attended our workshops, and it is worth considering the ways in which their commitment to the DH community and, perhaps most importantly, to people, is a vital part of what keeps digital humanities, and digital scholarship more broadly, moving forward. This seems a particularly important area to investigate in the context of sustainability.

LOGISTICAL CONSIDERATIONS

WORKSHOP SCHEDULE AND LOCATIONS

When planning the general schedule for a workshop, thoroughly check the dates of local, regional, and national conferences that might prevent intended audiences from participating. For interdisciplinary workshops, this even includes those convenings that are not directly related to the themes of the workshop. We learned after our workshop in Providence that it had been scheduled at the same time as the New England Archivists annual meeting, and after our workshop in Provo that the dates conflicted with those of the Utah Library Association annual conference. It is possible that these conflicts may have prevented some potential participants from applying. We have also considered that hosting a workshop in May, which falls after the end of the spring term for many academic institutions, created scheduling challenges for some potential participants as well. Of course, not all potentially competing events will be publicized far enough in advance to avoid entirely, and it is necessary to plan a workshop series in accordance with our own academic schedules.

However, in the course of conducting these workshops, we were reminded of the importance of researching potential conflicts and conferring with our regional hosts when creating the master workshop schedule.

In designing our schedule, we attempted to locate workshops strategically throughout the country so as to make the program more geographically accessible. By holding the workshops in regional hubs, we also hoped that travel bursaries would cover expenses more completely, making the workshop more financially accessible as well. Planning a workshop series with this structure relies heavily on collaborators at host institutions. We note that, particularly in larger states with more geographically dispersed cities and towns, it may be preferable to host a workshop in a regional airport hub city (for example, in Salt Lake City rather than Provo) in order to make the workshop more accessible to participants traveling from greater distances.

WEATHER CONCERNS

While it is not entirely possible to anticipate or plan for weather, we made an effort to schedule each workshop at a time when we hoped the weather in that region would be favorable for travel. On our way to our third workshop at Oklahoma State University we did, however,

encounter freezing rain conditions that resulted in the cancellation of our connecting flight from Dallas to Stillwater, Oklahoma. Several workshop participants were also on this flight, four of whom were unable to travel to the workshop at all, and one of whom arrived in time for only the second day.

ASYNCHRONOUS COMMUNICATION

Our team established channels for asynchronous communication and, we had hoped, for community building among our participants. Uptake of these channels, however, has been low, even as participants have asked us for ways to keep in touch with their cohort. Our intentions in providing our own channels were twofold: first, to offer participants with what we hoped would be easy ways to contact the Sustaining DH team with questions or concerns before and after each workshop; and second, to allow participants with an *opt-in* method of communicating with one another. Though we were asked by participants on several occasions to share a list of the email addresses of their fellow participants, we felt strongly that it was preferable to offer optional communication outlets for those who wished to establish contact outside of the workshops, without putting pressure on those who did not.

However, in spite of the fact that post-workshop communication seemed to be of interest, we have observed very low levels of participation both in Slack and Humanities Commons. This is possibly an issue of accessibility or barriers to entry, namely in that many participants would be required to create new accounts for Slack and Humanities Commons if they were not already using these platforms. Creating an additional account to manage and check regularly is a potentially significant obstacle for many, making email a more accessible and preferable alternative. While we recognize that these or other reasons may have contributed to the low uptake of the virtual office hours and community forums we established, we also believe that this experience may warrant further consideration. There is undoubtedly a desire for connectivity and community, and yet it is not simply a matter of creating a channel or group, and making one's availability known.

SEATING ARRANGEMENTS

In response to the post-workshop surveys from our first workshop at the University of Pittsburgh, we recommended at all subsequent workshops that project teams sit at a different table than they had on the first day. The Pittsburgh workshop participant had written that "I wish we'd shuffled tables the second day... It'd be nice if in the morning the facilitators encouraged folks to sit in a new place to change it up." Another participant at that workshop wrote in their response to the survey that "I wonder if there's a way to do more cohort-based learning and sharing. I think checking in with everyone else would be beneficial to everyone."

While there was much to cover each day, and we wanted to ensure that project teams would have time to talk amongst themselves, it seemed to us that by encouraging each team to sit at a different table, alongside new teams, each day, we might at least facilitate conversations between more project teams during breaks or discussion periods throughout the day. At the end of the first workshop day, we let participants know that we would like them to sit at a new table, alongside a new project team, at the start of the next day. Over the course of subsequent workshops, we found this daily rearrangement to be a productive one.

CATERING

On each day during the workshop, we provided breakfast, lunch, and coffee breaks for our participants. We found that attention to both rest and sustenance was a vital component of two full, intensive, collaborative work days. We specifically draw attention to this here for others who may organize a similarly-structured workshop series, whether at their own institutions or working with hosts at others. While it is, of course, possible (and, indeed, more affordable) to facilitate such a workshop with a lunch-on-your-own model, we felt that providing breakfast and lunch on site and at no additional cost to participants was beneficial to all. Providing meals in this manner allowed participants to get to know one another, beyond their own project teams, and to enjoy a period of rest between modules without having to worry about where to find food or whether they would make it back to the workshop on time.

We found that providing a hot breakfast followed by a cold lunch on the first day, and cold breakfast followed by hot lunch on the second, was an agreeable pattern. Coffee throughout the day, if possible, was preferable. We sent a survey to participants in advance of each workshop to ask for dietary restrictions and preferences for items such as boxed lunches that required a specific sandwich order. When possible, we opted for buffet-style orders that would allow participants to customize their meals in accordance to their specific dietary needs.

While the logistics of arranging these orders with a variety of catering services--nearly all of which were previously unknown to us and at a variety of sites which were also new to us--was at times challenging, we nonetheless feel strongly that providing meals was an act of care for our participants. Arrangements such as catering can, at times, be overlooked or treated as last minute details. But our experiences over the past year reinforce our feeling that providing nourishment and periods of rest is a vital part of a productive workshop. Responses to our post-workshop survey acknowledged this as well, and left us feeling that time spent attending to these details was not wasted. For example, from a post-workshop survey: "The catering was great, and I think you're right to put into it as much thought and effort as you seem to do!"

AWARD PRODUCTS

The deliverables from this research include the updated and maintained Socio-Technical Sustainability Roadmap website (<http://sustainingdh.net>) and a white paper documenting our experiences and details our findings based on the five instances of the workshop. Based on our experiences facilitating the STSR, we have also identified an additional deliverable that will be completed outside the scope of the current grant.

In Fall 2019 we will produce a facilitator's manual, designed to enable others to host and conduct their own instances of this workshop. Each of these three deliverables is described in more detail below.

SOCIO-TECHNICAL SUSTAINABILITY ROADMAP

The STSR includes an adaptation of the NDSA Levels of Digital Preservation, which we developed and tested with small audiences prior to the current grant. Though the adaptation was generally met with acceptance and enthusiasm, the Sustaining DH team was eager to see how it would work on the ground. After running the workshop for an audience of over 100 project creators, we are now confident that the NDSA Levels can be effectively adapted for use with actively growing projects at numerous scales, with only minimal changes made to the original adaptations.

As a result of our experiences facilitating multiple instances of the workshop, we have again made a few small but meaningful adjustments to its content, as well as to our in-person presentation. For example, we realized after our first convening in Pittsburgh that rather than asking project teams to give lightning project introductions before undertaking Module A, which asks teams about the scope of their projects, we should reverse that order. At subsequent workshops, we led Module A

first, which allowed project teams to discuss their projects in more detail prior to introducing them to the rest of the attendees.

Other subtle but, we believe, impactful changes were made to Section C, which focused on emphasizing the roles of "designated communities" and "significant properties" to the process of ongoing sustainability.

Other changes to the website consisted of additional resources brought to our attention by participants, which we added to the "Additional Reading" sections on relevant pages of the STSR website.

Following our own advice, we intend to keep the website in a state of ongoing maintenance for the next three years, at which time we will revisit our own sustainability plans. This means that while we will not add or change the content of the STSR, we will perform routine maintenance actions as required to ensure that the content remains accessible to our users.

FACILITATOR'S MANUAL

In the course of facilitating this workshop series, we have been repeatedly asked to provide all workshop materials in a single, physical (printed) package. This includes all content from the STSR website, activity worksheets and Excel templates, as well as the slide decks that were used to present the STSR in person. In addition to providing the materials that we use to hold these workshops, such as slide decks and worksheet templates, we plan to produce a full "Facilitator's Manual" that will additionally include documentation and advice for future facilitators based on the experiences and findings of our research team.

We hope that this will result in a complete and detailed account of the work that goes into organizing and facilitating these convenings, efforts which are so often invisible to attendees and outside observers.

By the end of 2019, we will have compiled all of these resources in a print-on-demand manual available at <http://sustainingdh.net>. For our work to find its full audience, the STSR will need to be facilitated by people other than our original project team, and we believe that this manual will be yet another way to support its impact.

WHITE PAPER

This report, which documents our experience of planning and conducting this series of workshops, in addition to the insights gleaned from our pre- and post-workshop surveys, will also be made available on the STSR website as a white paper. We hope that this will not only provide a snapshot of some of the sustainability practices, concerns, and goals of people creating digital humanities projects around the United States right now, but will also serve as a template for others who may wish to conduct a similarly structured, nationwide workshop series. With this in mind, we have included a discussion of how we went about our work, a presentation of our findings, and also significant amounts of logistical recommendations based on our experience planning and running a nationwide workshop series.

CONTINUATION + LONG-TERM IMPACT

Our initial series of workshops has already generated additional opportunities for facilitation of the Socio-Technical Sustainability Roadmap. For example, in March 2019, we facilitated a workshop at Denison University to respond to the interest from multiple project teams throughout the Five Colleges of Ohio. They contacted us in Fall 2018 (having seen the announcement for the NEH-funded workshops) and offered to bring our team to Ohio to lead workshop specifically for their constituents.

Several participants from our first five workshops have asked us if we are available to travel to their home institutions to facilitate additional workshops, which they would fund. After our workshop in Atlanta, two attendees expressed an interest in funding a similar workshop for project teams, specifically from historically black colleges and universities, though this opportunity has not yet come to pass. At present, we have been funded to facilitate an additional workshop at the University of Texas at Austin in December 2019, by an individual who was accepted to our workshop in Oklahoma, but was unable to attend due to inclement weather. Recently, a participant from our workshop in Utah, who is employed at Texas A&M, shared her experience with her colleagues, who then reached out to us with questions about facilitating their own version of the workshop for their colleagues.

Recognizing that it is not sustainable for us to facilitate the workshops indefinitely by ourselves, we have also elected to use this time to produce the aforementioned facilitator's manual, which we will maintain on our website (<http://sustainingdh.net>) through December 2022, at which time we will revisit our sustainability plans moving forward. The manual includes all website content, as a print-on-demand workbook, for those who would like to maintain the workshop materials in a printed format. It is our hope that by providing this manual and empowering others to run their own versions of the STSR, we will make this material much more accessible than it would be if we continued to facilitate it ourselves.

We have also been pleased to learn that there has been interest in translating the STSR into other languages. At this time we have had inquiries about French and Spanish, specifically. We wholeheartedly hope that these translations come to fruition, and remain open to discussing and supporting this work as we move forward beyond the current granting period.

SUSTAINING DH CITATIONS

The Sustaining DH project team has been truly and deeply gratified to learn that the workshop has been useful to participants beyond the two days spent working together. A number of participants from our workshops have written about their experiences attending, and the impact of the STSR on their projects. Below, we share references to several of these documents, none of which were solicited by the Sustaining DH team:

Barnes, Heather. "Heather and Jess at the Sustaining DH Institute." ZSR Library. February 15, 2019. <https://zsr.wfu.edu/inside/2019/heather-and-jess-at-the-sustaining-dh-institute/>.

Brown University Library News. "Workshop | Sustaining DH." Brown University. April 9, 2019. <https://blogs.brown.edu/libnews/sustaining-dh/>.

Department of English. "Professor John Muthyala and Learning Designer Jennifer Keplinger attend the NEH Institute in the Digital Humanities." University of Southern Maine. April 21, 2019. <https://usm.maine.edu/eng/professor-john-muthyala-and-learning-designer-jennifer-keplinger-attend-neh-digital-humanities>.

Onyemeh, LaQuanda T. "Reflections on the Sustaining DH Institute at Brigham Young University, Provo UT May 16-17." WOC+lib. May 24, 2019. <https://wocandlib.org/features/2019/5/24/laquandas-reflection-of-sustaining-digital-humanities-institute-brigham-young-university-provo-ut-may-16-17>.

Furthermore, we have also been incredibly pleased to see the workshop materials taken up by others who have not been able to attend the institutes. Three examples of references to the Socio-Technical Sustainability Roadmap in other contexts are included here:

Allen, Laurie. "Concepts and Models." Dreamlib. <http://laurieallen.org/dreamlib/concepts.html>.

Butler, Brandon, Ammon Shepherd, Amanda Visconti, and Lauren Work. "Archiving DH Part 2: The Problem in Detail." Scholar's Lab. March 11, 2019. <https://scholarslab.lib.virginia.edu/blog/archiving-dh-part-2-the-problem-in-detail/>.

McMichael, A.L. "Photogrammr." CAA.Reviews. April 23, 2018. <http://caareviews.org/reviews/3246#.XWkuS5NKjUI>.

APPENDICES

APPENDIX A: WORKSHOP SCHEDULE

Sustaining DH:

An NEH Institute for Advanced Topics in the Digital Humanities



Day One: Thursday, May 16th

8:30 - 9:00 am	Coffee & Light Fare
9:00 - 9:30 am	Facilitator Introductions and Overview of the STSR
9:30 - 10:30 am	<i>What is the scope of your project?</i>
10:30 - 11:00 am	Coffee Break
11:00 - 12:00 pm	Participant Introductions and Lightning Project Presentations
12:00 - 1:00 pm	Lunch
1:00 - 1:30 pm	<i>How long do you want your project to last?</i>
1:30 - 2:30 pm	<i>Who is the project designed for?</i>
2:30 - 3:00 pm	<i>What are the project's sustainability priorities?</i>
3:00 - 3:30 pm	Coffee Break
3:30 - 4:15 pm	<i>Project Documentation Checklist: Documentation Consolidation</i>
4:15 - 5:00 pm	Group Reporting and Wrap-Up Session

Day Two: Friday, May 17th

8:30 - 9:00 am	Coffee & Light Fare
9:00 - 9:45 am	<i>Who is on the project team and what are their roles?</i>
9:45 - 10:15 am	<i>What is the technological infrastructure of the project?</i>
10:15 - 11:00 am	<i>Socio-Technical Responsibility Checklist</i>
11:00 - 11:30 pm	<i>Adapting the NDSA Levels of Preservation; Documentation Consolidation</i>
11:30 - 12:30 pm	Lunch
12:30 - 1:00 pm	<i>Access & Backing Up Your Work</i>
1:00 - 1:30 pm	<i>File Formats & Metadata</i>
1:30 - 2:00 pm	<i>Permissions & Data Integrity</i>
2:00 - 2:30 pm	Coffee Break
2:30 - 4:00 pm	<i>Digital Sustainability Action Plan; Documentation Consolidation</i>
4:15 - 5:00 pm	Wrap-Up and Reflection

APPENDIX B: SURVEY INSTRUMENTS

Below are full text transcriptions of the pre- and post-workshop surveys administered to our workshop participants. The surveys were disseminated with Qualtrics and responses were collected anonymously.

Pre-Workshop Survey

What is your primary concern and/or question when it comes to the sustainability of your digital project?

How would you rank your understanding of sustainability as it relates to digital projects?

- 0 - No understanding at all
- 1 - Needs improvement
- 2 - Acceptable
- 3 - Very good
- 4 - Excellent

What are the main motivations behind your participation in the workshop?

What are some skills, tools, and/or techniques that you hope to get out of this workshop?

Do you have any questions or concerns for the workshop facilitators? If so, please include them here.

Post-Workshop Survey

Did the Sustaining DH workshop respond to the primary digital sustainability concerns and/or questions that brought you to the event? Please explain your choice to the right of your selection.

- Yes
- No
- Other

What increase have you experienced in your understanding of the process of sustaining digital humanities projects through attending the Sustaining DH workshop?

In what precise ways do you feel more prepared to sustain your projects post-workshop? Please explain.

What are some specific skills, tools, and/or techniques that you learned from the workshop that you found particularly helpful?

Do you have any other questions, comments, concerns, or suggestions for the workshop facilitators? If so, please include them here.

APPENDIX C: WORKSHOP PARTICIPANTS

UNIVERSITY OF PITTSBURGH, DECEMBER 10-11, 2018

HOSTS: ALISON LANGMEAD, AISLING QUIGLEY

American Religious Sounds Project

- Leigh Bonds, Digital Humanities Librarian, The Ohio State University
- Sandy Shew, Director of Research Computing Services, The Ohio State University
- Caroline Toy, PhD Student, The Ohio State University

Dig: A History Podcast

- Averill Earls, Assistant Professor, Mercyhurst University
- Sarah Handley-Cousins, Clinical Assistant Professor, University at Buffalo

Digital Dante

- Julie Van Peteghem, Assistant Professor of Italian, Hunter College of the City University of New York
- Akash Kumar, Visiting Assistant Professor of Italian, Indiana University, Bloomington

Digital Mitford

- Elisa Beshero-Bondar, Associate Professor of English, University of Pittsburgh at Greensburg
- Lisa Wilson, Professor, English and Communication, SUNY Potsdam

The Folger Digital Texts of Shakespeare

- Rebecca Niles, Virtual Printing House Designer and Developer, Folger Shakespeare Library
- Meaghan Brown, Digital Production Editor, Folger Shakespeare Library
- Sophie Byvik, Digital Projects Associate, Folger Shakespeare Library

Historical Medical Library of the College of Physicians of Philadelphia

- Tristan Dahn, Digital Projects Librarian, Historical Medical Library of the College of Physicians of Philadelphia

The Keats Library

- Daniel Johnson, English and Digital Humanities Librarian, University of Notre Dame
- Julie Vecchio, Assistant Director, Navari Center for Digital Scholarship, University of Notre Dame

La gregueria virtual: The Virtual Aphorisms of Ramon Gomez de la Serna

- Janelle Gondar, PhD Candidate, Yale University

Letters from Devastation: Mary Breckinridge in the Aisne

- Trey Conatser, Associate Director, Center for the Enhancement of Learning and Teaching, University of Kentucky
- Sarah Dorpinghaus, Director of Digital Services, University of Kentucky Special Collections Research Center
- Jennifer Hootman, Digital Humanities Librarian, University of Kentucky Libraries

Repertorium of Old Bulgarian Literature and Letters

- David Birnbaum, Professor, Department of Slavic Languages, University of Pittsburgh

Secret Pittsburgh Digital Guidebook

- Matthew Lavin, Clinical Assistant Professor of English and Director of Digital Media Lab, University of Pittsburgh
- Jessica Fitzpatrick, Visiting Lecturer, English Department, University of Pittsburgh

GEORGIA INSTITUTE OF TECHNOLOGY, JANUARY 17-18, 2019
 HOSTS: LAUREN KLEIN, BRADLEY RITTENHOUSE, REBEKAH FITZSIMMONS

African American Literacy Practices and the Underground Railroad

- Sylvia Owiny, Associate Librarian, The Pennsylvania State University
- Rebecca Bayeck, PhD Candidate, Learning Design & Technology and Comparative & International Education, The Pennsylvania State University

Antioch A.M.E. Digital Archive

- Julia Brock, Assistant Professor of History, University of Alabama
- Robin Morris, Associate Professor of History, Agnes Scott College
- Tigner Rand, Brand Strategist, Steed Media Group / Antioch A.M.E. Church
- Elayne Washington Hunter, Antioch A.M.E. Church
- Calvin Washington, Antioch A.M.E. Church

Borrowers and Lenders: The Journal of Shakespeare and Appropriation

- Sujata Iyengar, Professor, Department of English, University of Georgia
- Matthew Kozusko, Associate Professor of English, Ursinus College

Caribbean Diasporas Digital Humanities Thinking Lab

- Sally Everson, Assistant Professor, School of English Studies, University of the Bahamas-North

The Cascade Oral History Project

- Rico Chapman, Associate Professor, Department of African American Studies, Africana Women's Studies and History, Clark Atlanta University
- Candy Tate, Assistant Director, Programs, Center for Creativity and Arts, Emory University

The Chaos and the Cosmos of Archival Research Applications: Using DH Tools and Methods in Writing and Communication Courses

- Joshua Hussey, Limited-Term Instructor, English Department, University of Georgia
- Spenser Simrill, Jr., Instructor, English Department, University of Georgia

Mapping the Jubilee Singers of Fisk University

- Holly Tipton Hamby, Associate Professor of English, Fisk University
- DeLisa Harris, Special Collections Librarian, Fisk University

Mapping Renewal

- Shannon Lausch, Multimedia Archivist, Center for Arkansas History and Culture, University of Arkansas
- Elise Tanner, Director of Digital Projects & Initiatives, Center for Arkansas History and Culture, University of Arkansas

Project Andvari

- Nancy Wicker, Professor, Department of Art and Art History, The University of Mississippi

Rulers of Venice

- Heather Barnes, Digital Curation Librarian, Wake Forest University
- Jessica Wilson-Saia, Developer, Wake Forest University

Storms to Life at East Carolina University

- Donna Kain, Department of English, East Carolina University
- Irina Swain, Department of Foreign Language and Literatures, East Carolina University

Technology and Gender Project

- Jacquelyne Howard, PhD Candidate, History, Fordham University
- Bernadette Birzier, Archivist for Collections Management and Digital Initiatives, Tulane University

OKLAHOMA STATE UNIVERSITY, FEBRUARY 28-MARCH 1, 2019

HOSTS: JENNIFER BORLAND, MARY LARSON, BRET DANILOWICZ, SHEILA GRANT JOHNSON

The American First World War Poetry Digital Archive

- Tim Dayton, Professor of English, Kansas State University
- Mark Crosby, Associate Professor of English and Director of Digital Humanities Center, Kansas State University

Chant Hypertexts: Prosulas for the Proper of the Mass in Veneventan

- Luisa Nardini, Associate Professor in Musicology, The University of Texas at Austin
- Bibiana Vergine, Web Content Editor, Chant Hypertext
- Emily Loeffler, PhD Student, Musicology, University of Oregon

Historical Index of Medieval Middle East (HIMME)

- Thomas Carlson, Assistant Professor of Middle Eastern History, Oklahoma State University

Indigenous Media Portal

- Tara Carlisle, Head of Digital Scholarship Lab, University of Oklahoma
- Barbara Laufersweiler, Director of Digital Collections and Digitization, University of Oklahoma
- Amanda Minks, Associate Professor, Honors College, University of Oklahoma
- Joshua Nelson, Chair of Film and Media Studies and Associate Professor of English, University of Oklahoma
- Lina Ortega, Head of Operations, Western History Collections and Native American Studies Librarian, University of Oklahoma Libraries

MayaArch3D

- Heather Richards-Rissetto, Assistant Professor, Department of Anthropology, University of Nebraska-Lincoln
- Karin Dalziel, Digital Development Manager and Designer, University of Nebraska-Lincoln

Memorials Digital Project

- Laura Matysek Wood, Professor of History and Government, Tarrant County College Northwest Campus
- Jason Clark-Miller, Associate Professor of Criminal Justice, Tarrant County College Northwest Campus

Migration Stories: Africans in Midwestern Communities

- Aron Muci, Assistant Director, Center for Latin American & Caribbean Studies, University of Kansas
- Ashley Carlson, Research Development Specialist, Hall Center for the Humanities, University of Kansas
- Emily Riley, Assistant Director and Foreign Language and Area Studies Fellowship Coordinator of the Kansas African Studies Center, University of Kansas
- Brian Rosenblum, Co-Director, Institute for Digital Research in the Humanities, University of Kansas Libraries

Northwest Stories

- Robert Voss, Assistant Professor of History and Social Science Education Coordinator, Northwest Missouri State University
- Dawn Gilley, Department Chair, Humanities and Social Sciences, Associate Professor of Humanities, Northwest Missouri State University

Payne County Land Records

- Mary Larson, Associate Dean for Special Collections and Puterbaugh Professor of Library Service, Oklahoma State University Library
- Patrice-Andre Prud'homme, Director of Digital Curation, Archives and Special Collections, Oklahoma State University Library
- Kevin Dyke, Maps and Spatial Data Curator and Assistant Professor, Edmon Low Library, Oklahoma State University

Ukíché Digital Archive

- Rachel Jackson, Diversity Post-Doctoral Fellow, Oklahoma State University
- Phil Bratta, Assistant Professor of Rhetoric and Writing Studies, Oklahoma State University

BROWN UNIVERSITY, APRIL 4-5, 2019

HOSTS: SUSAN SMULYAN, JAMES MCGRATH, ELLI MYLONAS

Dictionary of African Christian Biography

- Michèle Sigg, Associate Director, Dictionary of African Christian Biography, Boston University
- Vika Zafrin, Lecturer, Boston University and Digital Scholarship Librarian, Brown University

Grupo de Apoyo Mutuo (GAM) Digital Archive

- Alex Galarza, CLIR Postdoctoral Fellow in Data Curation for Latin American and Caribbean Studies, Haverford College Libraries
- Carlos Juárez Ramirez, Project Coordinator, Grupo de Apoyo Mutuo (Guatemala)
- Andrew Janco, Digital Scholarship Librarian, Haverford College
- Maynor Alvarado, Head of Legal Team, Grupo de Apoyo Mutuo (Guatemala)
- Michael Zarafonetis, Coordinator for Digital Scholarship and Research Services, Haverford College

Hidden Literacies

- Jason Jones, Director of Research, Instruction, Technology, Trinity College, CT
- Christina Bleyer, Director of Special Collections and Archives, Trinity College, CT
- Luke Phelan, Instructional Technologist, Trinity College, CT
- Joelle Thomas, User Experience Librarian, Trinity College, CT
- Mary Mahoney, Andrew W. Mellon Postdoctoral Fellow in Digital Humanities, Trinity College, CT

Historic Nova Scotia

- Roger Gillis, Copyright & Digital Humanities Librarian, Dalhousie University (Canada)
- Sharon Murray, Project Assistant, Historic Nova Scotia, Dalhousie University and Regular Part-Time Faculty, NSCAD University (Canada)

History of Science in Latin America and the Caribbean (HOSLAC)

- Julia Rodriguez, Associate Professor of History, University of New Hampshire
- Taylor Dysart, PhD Student, History & Sociology of Science, University of Pennsylvania

Maine Digital Collaborative

- John Muthyala, Professor, Department of English, University of Southern Maine
- Jennifer Keplinger, Learning Designer, University of Southern Maine

Mapping the Newport Experience

- Molly Bruce Patterson, Collections Team Coordinator & Manager of Digital Initiatives, Newport Historical Society
- Ingrid Peters, Deputy Director & Director of Education, Newport Historical Society

Modernist Journals Project

- Susan Smulyan, Director, John Nicholas Brown Center for Public Humanities and Cultural Heritage, Brown University
- Jeffrey Drouin, Associate Professor of English, The University of Tulsa

Quilting African American Experiences in Northeast Ohio

- Jewon Woo, Associate Professor of English, Lorain County Community College
- Karin Hooks, Interim Director, International Initiatives/International Student Services, Lorain County Community College

RICHRI Arts and Culture Fellowship

- Janaya Kizzie, Arts and Culture Fellow, Rhode Island Council for the Humanities
- Amy Barlow, Assistant Professor and Reference Librarian, Rhode Island College

What's in a Recipe?

- Heather Froehlich, Assistant Librarian, Pennsylvania State University
- Christina Riehman-Murphy, Reference & Instruction Librarian; Rank: Assistant Librarian, Abington College Library, Penn State Abington

BRIGHAM YOUNG UNIVERSITY, MAY 16-17**HOST: BRIAN CROXALL****Cambodian Oral History Project**

- Brian Croxall, Assistant Research Professor, Office of Digital Humanities, Brigham Young University
- Dana Bourgerie, Department Chair, Asian and Near Eastern Languages, Brigham Young University
- Allison McIllece, Undergraduate Student, Brigham Young University

Chicana/o Activism in the Southern Plains Through Time and Space

- Joel Zapata, PhD Candidate, History, Southern Methodist University

Fairy Tales on Television

- Tory Anderson, PhD Pursuant, Computer Science, Brigham Young University
- Jill Rudy, Associate Professor, English Department, Brigham Young University

Genoa Indian School Digital Reconciliation Project

- Michelle Tiedje, Project Manager, Genoa Indian School Digital Reconciliation Project, University of Nebraska - Lincoln
- Blake Graham, Digital Archivist, University Libraries, University of Nebraska - Lincoln

London Stage Database

- Mattie Burkert, Assistant Professor of English, Utah State University
- Todd Hugie, Director of Library Digital and Information Services, Utah State University

Photo Tech

- Bryce Dwyer, Project Manager, Digital Initiatives, Getty Research Institute
- Melissa Gill, Metadata Specialist III, Digital Art History, Getty Research Institute

Rediscovering French Polemical Pamphlets: New Methods and New Perspectives

- Christopher Flood, Assistant Professor, Department of French and Italian, Brigham Young University
- Jeremy Browne, Associate Research Professor, Office of Digital Humanities, Brigham Young University

REMAP Database

- Alaine Hutson, Professor of History: Middle Eastern History, Huston-Tillotson University

WOC + Lib

- Lorin Jackson, Research and Instruction Resident Librarian, Swarthmore College
- LaQuanda Onyemeh, Diversity Resident Librarian, Texas A&M University Libraries

CONTACT

The Socio-Technical Sustainability Roadmap

www.sustainingdh.net

Sustainability DH - An NEH Institute for Advanced Topics in the Digital Humanities

www.sites.haa.pitt.edu/sustainabilityinstitute

Humanities Commons

www.hcommons.org/groups/sustaining-digital-projects

#sustaining Channel on Digital Humanities Slack

www.tinyurl.com/DHslack