

BUILDING FOR TOMORROW

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To: Building for Tomorrow Forum Participants and DADE coalition members
From: Ann Whiteside, Building for Tomorrow PI
Date: 2018, September 20
Subject: Building for Tomorrow Forum Report

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Introduction

In 2017, the Frances Loeb Library at the Harvard University Graduate School of Design received an IMLS grant (Whiteside 2017) to develop a shared infrastructure for preservation of digital design documents and data. Under the National Digital Platform priority, the grant supported the convening of a National Forum that brought architects, architectural historians, archivists, librarians, technologists, digital preservationists, and all those engaged in preservation of digital design data together, for a day and a half-long workshop. Thirty-five participants, invited to represent these areas of expertise were asked to work together in small and large groups to meet the desired outcomes of the Forum. The goals of the forum were: (i) to set priorities for long-term preservation of digital design documents; (ii) to think collaboratively about issues in preserving architectural design data; (iii) to find alignments of needs and challenges across communities; (iv) to identify a path of development for sustainable shared infrastructure for preservation of digital design documents and data, usable by a variety of types and sizes of architectural museums and archives, in the form of an action plan for the next 3-5 years. An infrastructure in this context includes human resources required to do this work, along with the technological tools, methodologies, and services needed to support institutions of varying types and sizes.

The forum was held immediately prior to the Society of Architectural Historians annual conference on April 17-18, 2018, in St. Paul, Minneapolis. It was led by Building for Tomorrow PI, Ann Whiteside, and facilitated by Christina Drummond with help from Aliza Leventhal, Jessica Meyerson, Kit Arrington, Kari Smith, and Kate Neptune to keep discussion on topic, to encourage all voices to be heard, and to prompt critical reflection within small groups. A copy of the agenda listing all presenters is included in the appendix. The following report comprises a summary of events and major findings; full notes from the Forum are included in the appendix.

Day 1 / Tuesday April 17

The goals of day one were to identify barriers, issues, and needs of the different stakeholder groups represented; to identify priorities in developing a shared “infrastructure”; and to map out connections between and among the communities represented at the Forum and other communities with which we need to develop partnerships. The end product of the day was a working “map” that included collecting stages of design files, the work flows for each area of expertise, and capturing the multi-dimensional perspectives from each area of expertise (for example the architect is concerned with different parts of the Architecture, Design, and Engineering (ADE) record lifecycle than the archivist) of preserving born digital design files and the various connections to other groups and organizations that are working on similar issues with which we need to connect. This “map” visually described the work that needs to be accomplished to develop infrastructure to support the preservation of digital design files from creation through ingest by collecting institutions.

Welcome, Forum Overview, Grounding

The first part of the day was spent setting the stage for the work to be accomplished. This was done through introductions, an overview of the forum goals, and outlining how the workshop

would be conducted¹, including a discussion about radical collaboration which focused on collaborating across communities with diverse perspectives and work methodologies by being able to identify differences and areas of connection (McGovern forthcoming).

Next, work that had already been done in the area of preserving digital architectural documentation was highlighted to ensure that all participants had the same base-level information to work from through the Forum. Prior to the Forum, participants were asked to review the IMLS Building for Tomorrow Grant Narrative (Whiteside 2017), and descriptions of three related efforts: a study on the lifecycle of digital design records, “Collecting, Archiving and Exhibiting Digital Design Data” initiated by the Art Institute of Chicago (Kristine Fallon & Associates 2004); the executive summary of the MIT FACADE project (Smith 2009); and a report from the 2017 Library of Congress Summit on digital Architecture, Design and Engineering Assets (Leventhal 2018). The latter three efforts were summarized again at the forum, and additional efforts on ADE preservation were highlighted, including work accomplished by the Society of American Archivists (SAA) Design Records Section² over the last five years. Most notably, the SAA Design Records Section discussed the creation of an appraisal grid which would help archivists prioritize what digital ADE records to take in to their collection; this project is still in process. Two parallel projects to Building for Tomorrow were also included: the IMLS-funded Community Standards for 3D Preservation³ grant (Moore, Rountrey, and Kettler Scates 2017), whose goal is to develop a community of practice around the preservation of 3D files; and the CLIR 3D/VR project⁴ (Lischer-Katz) (also IMLS-funded through a micro-grant), which is addressing 3D/VR content creation and education best practices.

Next, an update on the 2017 Building for Tomorrow Stakeholders Record and Resource Prioritization Survey was presented⁵. The survey was created by planning members Jessica Meyerson and Aliza Leventhal, and sent to forum attendees prior to the Forum. This pre-forum Stakeholder Survey was administered in order to establish a baseline of the types of architectural, design and engineering (ADE) records of greatest importance to the stakeholders invited to the April forum. The hope had been to use the survey responses to help frame the forum’s in-person discussion. With only 19 responses, it was not possible to identify trends in the types of records various stakeholders prioritized, nor was it possible to parse to the necessary granularity between software and record types. Despite these limitations, reporting the findings from the survey was still successful in prompting thoughtful discussion around the challenges of each stakeholders’ interest and prioritization of records and software to keep.

Finally, to conclude the introduction and prepare for workshop exercises, we asked Forum participants to self-identify by their areas of expertise, called “lifeboats”. Lifeboat groups were classified as Technologist Historians (7); Architectural Historians (2), Curators (11); Architect / Corporate Archivists (6), and Community Builders (CCB) (5)⁶. Two exercises (Working Session 1:

¹ An appendix of participants is attached to this report, and the goals and workshop method are articulated in the introduction.

² Presented by Aliza Leventhal; <https://www2.archivists.org/groups/design-records-section>

³ Presented by Will Rourk; <http://gis.wustl.edu/dgs/cs3dp/>; CD3DP.org; Slack channel @CS3DP

⁴ Presented by Veronica-Gaia A Ikeshoji-Orlati; <http://vrpreservation.oucreate.com/Colloquium/>

⁵ Presented by Jessica Meyerson; see appendix 3

⁶ 4 of the 35 participants were also participating in SAH pre-conference administrative activities and therefore did not participate in the lifeboat exercises.

What makes an ADE record significant? and, Working Session 2: *Stakeholder Needs and Challenges*) were done in these groups, with the goal of identifying issues specific to the particular Lifeboats, and to identify overlaps across the Lifeboats.

Working Sessions 1 & 2: Identifying shared and individual themes

Two working sessions enabled the group to identify lifeboat-specific and cross-lifeboat issues regarding digital preservation of ADE records. While the exercise was important to articulate both specific and shared themes, the common issues were most relevant because they will form the foundation for a shared infrastructure. A list of the shared themes and common issues are below.

Working Session 1: What makes an ADE record significant?

In this working session each lifeboat described the significance of architecture, design and engineering (ADE) records to their area of expertise. Each lifeboat group identified significance based on their role they play in the life cycle of design records. Below is a compilation of commonalities across the lifeboats discovered as the whole group reviewed the results of the small-group work. The shared themes that arose between two or more lifeboat groups included:

- Significance is identified in the present tense and historical context of design as well as in the future (future interest in the project, the whole trajectory of the designer's work through their career): ADE records can be useful for preservation projects, as a means of planning for care-taking and use of the building or object, as well as for scholarship on historical conditions of the work.
- Authenticity and authority: because of the often complex nature of the design process - multiple people are involved, the many handoffs that occur throughout the design process. In addition to fulfilling legal requirements for practitioners, the ADE record can provide insight into the design process and collaboration of the work, and even reveal a creative process.
- The records are significant because they represent creative processes working on the built environment.
- Records are usable and reusable over time by architects and later by historians for purposes including research for restoration; understanding original design intent and design development; understanding the relevance to other collections; educational value; emotional connections
- The digital record in its native environment inherently contains the file structure (including linkages and dependencies) and metadata providing information about provenance and context of use.
- Significance is also related to return on investment (ROI) - if a set of records are significant from the design viewpoint, the cultural viewpoint, and the usability viewpoint, the ROI may be met.

Working Session 2: Stakeholder Needs and Challenges

In this session, lifeboat groups worked to identify needs and challenges in their particular areas of expertise, and again to identify where there are commonalities because that can help us identify

where we can work together. After the Lifeboat groups discussed needs and challenges, all participants were then brought together to reflect on common issues that surfaced in discussion. The common needs and challenges to digital preservation, which surfaced between 2 or more lifeboats, include:

- Needs
 - Education on donor communications, working with donor agreements, understanding legal agreements with architects, communicating preservation issues. Common standards for working with donors. Including agreements and legal agreements.
 - Technologies and techniques for preservation and storage.
 - Proficiency with, and access to, software of origin.
 - Preservation solutions that work for the records that the creators create and that creators and curators select for preservation.
 - Training in digital preservation.
 - Ability to show creative (digital) process in context for exhibit or tour; and desire to visualize creative process and engagement of architects within the design records.
 - Access to the content in the records over time.
- Challenges
 - Investment in and knowledge of software products, and the complexity of the reusability of software: technology skills (resources / education / staff) across the stakeholder groups vary, yet the individual stakeholder groups and digital ADE community at large need to build these skills robustly in order to do the work of digital preservation, as well as to access and use ADE records that are preserved.
 - Funding, cost and ROI - how can we quantify and justify the return on investment of preserving digital ADE records? The costs of digital preservation and of preservation repositories prevents many institutions (no matter the size) from attempting to preserve digital content.
 - Lack of staff and practitioner human resources to dedicate to the work.
 - Handoffs/transfers of files from one stakeholder group to another (i.e., from creator to contractor, from creator to institution) complexifies IP issues, and shifts the manner of implementation, focus and priority of digital preservation.
 - Focus on digital preservation is dependent upon the stakeholder's role (E.g. For an architect, getting sued may be a large incentive to keep digital records; e.g., a small institution is likely not to have a technological or human supporting infrastructure)
 - Intellectual property. There are multifaceted pieces of IP in the design process and in the relationships between designer and client.
 - Accessibility in terms of making records available to researchers once in the archive - all related to the ability to read the software (requiring educational support and technical dexterity), legal issues (IP), and technological issues (the ability to simulate or emulate native hardware environments for the software).

- Collecting scope: how we think about collecting shifts with digital records because of the multiple types of files, layering of files, the referencing of layers, and the sheer number of files per project.
- Appraisal: what should be preserved - digital ADE record significance varies from multiple stakeholder viewpoints and typical practices. Each stakeholder group brings different perspective to what should be preserved, precisely because of their role and experience.
 - E.g. statute of limitations for architects is a factor in terms of what records they feel they need to keep for legal reasons as opposed to keeping the cultural heritage record.

Intersections of Lifecycle Frameworks

The group then spent some time assessing the concept of the digital lifecycle in the context of digital design records. The concept of the digital lifecycle is important because it connects the work of each discipline and area of expertise in a chronology of events that follows ADE records from birth to preservation. To examine the concept of digital lifecycles, five existing ADE digital lifecycle frameworks were assessed: the Curation Lifecycle Model (“DCC Curation Lifecycle Model,” n.d.); the Major Facilities Life Cycle Phases (Fallon and Palmer, 2006); the OAIS model; the Producer-Archive Interface Methodology Abstract Standard (PAIMAS) (International Organization for Standardization 2006); and the collection/archiving model as shown in the “Collecting, Archiving and Exhibiting Digital Design Data” study initiated by the Art Institute of Chicago (Kristine Fallon & Associates 2004).

Each framework was discussed with reference to its discipline of origin. It was noted what worked for each of the lifeboat professions and how frameworks interconnected⁷. Forum participants then discussed issues around reframing specific models, calling out that IT implementation varies institution by institution and also recognizing that frameworks used are complementary to the larger workflow; disambiguating the roles of all players from creation through preservation and identifying distinct responsibilities; understanding the need to have precise conversations about hand-offs across domains; and the need for understanding forms of records that are not captured in existing digital lifecycle models. The full group discussion articulated where different stakeholder groups focus their time on these models, noting that each of the models maps to the lifeboat groups in different ways in the context of this Forum: Record Creation (aligns to architect/corporate archivist), Bridging (aligns to all groups), Preservation (aligns technologists/historians), Access/Reference (aligns to curators) .

This exercise brought the full group to agree that identification of common elements between models is needed, and those common elements should be the starting point for our roadmap. It was also agreed that we need to search for the archives and other communities that are already working on mapping lifecycle models to 3D records – i.e., CS3DP - is doing a lot of this community consensus work.

⁷ For full notes on assessment of the different lifecycles, see Appendix 5

Creating a mindmap

The goal of this exercise was to create a mindmap which would lead to the work of Day 2: the creation of strategic goals and a series of projects, from which to distill an “infrastructure”. The mindmap tried to capture the work and discussion from earlier in the day in one place. It was a tool to visualize and distill answers to the following prompts posed to the group: what do we already know about ADE digital preservation; who are the aligned communities, present and not present at the Forum, with a stake in ADE digital preservation; where are the intersections across stakeholder communities; and what steps are needed to create an infrastructure for digital preservation of ADE records?

Working in lifeboat groups (composed by area of expertise as defined at the start of the day), these small groups added observations and identification of issues to a large piece of paper, working in parallel with all other groups on the same paper. In the following large group discussion connections and themes were noted by circling words and connecting themes with lines. At the end of the day we were left with the categories listed below. Group discussion to prioritize categories and consider tasks associated with each was started, to be further fleshed out on day two.

Mind Map Categories

- IP Driven Practice/Policy
- Research focus: Predicting/anticipating collections for future research
- Incentivising Creators to participate in preservation processes is important to developing a shared infrastructure for ADE preservation
- Enable the power of developing narratives with creators as part of the preservation strategy
- Design technologist focuses / interoperability of tools
- Post-custodial (after the archive has been taken in the collection)
 - Facility management is an important stakeholder (users)
 - Get into the classroom and get young designers to understand and appreciate information management
- We can leverage our expertise by looking at opportunities and existing wins
- Leverage human and more flexible indirect costs that allow us build up to big scale
 - I.e., NDSA - levels of digital preservation (a specific slice of practice); some institutions have levels of preservation commitment
- Identify additional communities with which to work
- Observations:
 - “Building for Tomorrow” is aspirational - we shouldn’t be limited by what we can do today. We should think big.
 - We have opportunities to think about technology that helps us get to the next stage. We can bridge technologies by taking advantage of shared expertise across the community. (I.e., Data Curation Network staffing model)
 - Take the human resources, funding resources, and technological resources to collaboratively solve problems and move forward

- To develop a community-based preservation strategy we need to be a little uncomfortable - we don't need to reinvent, we need to evolve existing models
- Need to conduct a gap analysis for the ADE/AEC community
- Look at acquiring collections in a new way
- The data is connected to many related fields
- Need to incorporate into our thinking (i) levels of access, and (ii) levels of collecting.

Day 2 / Wednesday April 18

Day two focused on moving from the mindmap towards developing a set of strategic directions and actions for a community driven infrastructure for preserving digital ADE records. During this day a clarification to the moniker for ADE records was proposed: DADE (Digital Architectural Design Engineering records). This was to clarify the project's orientation towards new (post 2010) digital ADE records: works that are born-digital within the lifespan of current software versions, rather than legacy works that will benefit from solutions for new digital records, but require additional technologies such as emulation.

Developing Strategic Directions and Projects

The top six themes from the mindmap on day one were taken as the strategic directions for the work of Building for Tomorrow. Under each strategic direction, participants worked in their profession lifeboat groups to identify their pain points within each strategic direction, and projects that would alleviate those pain points in DADE preservation. To do this, lifeboats floated through the room to address each of the strategic directions which were pinned to the wall, to contribute needed projects that their profession could advance to move the direction forward (annotated below).

After visiting each station, the large group convened and participants voted for what they felt were the most important projects to complete in the next 3-5 years within each thematic area. The exercise resulted in the following strategic directions and projects - the number following each project denotes number of votes.

Strategic Directions and Projects

1. Start and Improve Coordination across Institutions on DADE
 - i. Create an inventory/directory of efforts that use, create, or address digital objects, noting their institutional homes, including from allied domains - 13
 - ii. Create a presence for DADE in the Open Science Framework (OSF) - 11
 - iii. Create a Statement of Importance which defines issues and opportunities in developing DADE collections - 10
 - iv. Obtain grants to provide cohorts with microgrants to facilitate coordinated action on strategic initiatives - 8
2. Increase domain-specific capacity on DADE
 - i. Explore opportunities to incorporate DADE training into existing curriculum and professional development programs
 - ii. Develop inventory of existing training opportunities

- iii. Raise awareness of need for professional development around DADE
- 3. Create Campaigns to Connect Stakeholders
 - i. Develop short-term microgrant program (funded by CLIR, Mellon, Sloan, etc.) to fund multi-stakeholder (i.e. archivist and creator/vendor/standards organization) teams piloting DADE archiving - 20
 - ii. Develop and communicate a unifying statement that articulates the value of participation, frames the scope of activities, and purpose for the DADE "community" - 18
 - iii. Develop targeted messages to raise awareness and engage priority stakeholder groups - 7
- 4. Develop/Leverage/Integrate Standards & Good Practices to Not Reinvent the Wheel
 - i. good practices and guidelines for creators organizing and retaining records to ease transition into collecting repositories - 21
 - ii. scorecards to evaluate software preservation capabilities - 11
 - iii. stories that illustrate the value of incorporating standards/GPs into design workflows - 9
 - iv. software and workflow good practices for students / professional development training - 9
 - v. Engage software developers and vendors to incorporate standards/needs into the software development cycle - 7
- 5. Foster a Congress/Coalition/Bridge to Connect DADE with other Preservation and Consortia Communities
 - i. Identify and engage the entire range of stakeholders - 16
 - ii. Develop a collective knowledge base of case studies - 9
 - iii. Build bridges to professional associations with an interest in DADE - 7
 - iv. Build bridges to learn from other digital content-specific communities - 7
- 6. Create the Business Case for Building Preservation Capacity for DADE
 - i. Create a benchmarking tool to understand how different types of institutions curate, collect, and preserve DADE - 18
 - ii. Adapt existing toolkits to facilitate the prioritization and appraisal of content by future users and decision-makers (creators, researchers, technologists, administrators, collection developers, archivists, and students) - 13
 - iii. Adapt existing matrices of digital preservation options (i.e. services and tools) -11
 - iv. Leverage and create cost and risk models - 24

Closing

The remainder of the Forum was spent obtaining Forum participant feedback, determining next steps, and discussing the leveraging, integration, and development of standards for digital DADE documentation. In full group discussion attendees were asked what their takeaways were, if this forum completely missed anything, and how we can work going forward. This discussion resulted in three key areas of observation.

First, DADE efforts need to take an interdisciplinary approach. While forum participants were pleased to be in a room of diverse DADE stakeholders, it was also acknowledged that not all

stakeholder groups were represented with enough participants. Specifically mentioned were delegates from campus facilities, who might provide a unique perspective on DADE record use over the course of a building's life; and architectural historians and design researchers, who actively benefit from DADE preservation efforts. Also missing were delegates from the Canadian Center for Architecture (CCA) as well as The Getty Museum, who have made significant strides in DADE preservation but were unable to attend the forum. Since broader and more thorough stakeholder engagement is not directly mentioned in the Strategic Directions produced by the group, it will be part of the task of the PI and future Steering Committee to incorporate and engage stakeholders who were not present or adequately represented at the forum, so that DADE efforts can be fully inclusive of design disciplines mindful of each discipline's unique cultural aspects and take into account provenance and context of DADE records.

Second, a challenge to "Stop the silos! and Embrace Collaboration!" was emphasised throughout the room. The DADE efforts need to do more leveraging of overlaps between communities (both present and not present at the forum) who have been working on same or similar issues, and to learn from "lessons learned" across disciplines. It was noted that the Building for Tomorrow forum has been able to gather enough information about DADE preservation that it is now possible for individual organizations to look for the gaps in existing efforts and support systems in an effort to see what they can contribute. However, the DADE community must continue to improve access and communication in order to continue and expand interdisciplinary lessons and interests (e.g. Software Preservation Network (SPN) working groups, volunteer collaboration where documentation happens, followed by an evaluation component to determine success). In counter-correspondence, it was also acknowledged that DADE efforts must be careful not to problematize the work to the point of inaction.

Third, the Building for Tomorrow grant and forum has provided valuable leadership by connecting stakeholders and efforts around DADE preservation, by taking responsibility for identifying shared issues, and for guiding task forces for these issues forward. Yet, the work of DADE preservation can not be done by one person or one discipline. It remains to be seen how to build a coalition that can continue to take on this responsibility. Cautious optimism was expressed with recognition of failed prior efforts to form initiatives around DADE preservation, and the scalability of productive efforts of the forum. This reflects the importance of gaining engagement from all the stakeholder communities, and identifying the human and financial resources needed to make this project successful in the long term.

Finally, a list of action items for next steps was generated through large group discussion were identified as listed below.

Action items

1. A report on the forum will be written and disseminated to participants and other stakeholders. Assigned to PI.
2. Selection of a steering committee by the Building for Tomorrow Advisory Group. A summary of the work of the Forum will go to the steering committee who will meet in May; they will refine and further articulate the roadmap that will result in working groups to take specific actions forward. Assigned to the PI.

3. Writing articles and presenting on this topic in broader contexts and to broader audiences. Assigned to PI and will later be taken up by others interested.
4. A contact list or communication platform of Forum participants and other stakeholders for DADE communication and group discussion should be created and disseminated. Assigned to PI.
5. Create a survey of DADE users needs. SAH seemed interested in exploring this, though it was not specifically assigned in the Forum.

In addition, participants pledged their support and efforts to move the discussion on DADE forward in their own communities. A list of these pledges are included in the full notes - see Appendix 5.

Conclusion

The Building for Tomorrow Forum met the majority of the stated goals of the Forum: to think collaboratively about issues in preserving architectural design data; to find alignments of needs and challenges across communities; to identify a path of development for sustainable shared infrastructure for preservation of digital design documents and data, usable by a variety of types and sizes of architectural museums and archives, in the form of an action plan for the next 3-5 years. One goal of the Forum - to set priorities for long-term preservation of digital design documents - was not explicitly addressed, though the work is folded into the strategic directions and will be addressed as Building for Tomorrow progresses.

As a result of this Forum, many participants expressed relief in knowing there is a community organized around DADE preservation -- that they and their organization (large or small) are not alone, and that this community gives everyone access to resources and a deeper understanding of the challenges in DADE preservation. This was perhaps the greatest takeaway from the forum: affirmation that the formal presence of a DADE preservation *community* is both needed and pressing.

Coda

Since the forum concluded several steps have been taken to further the goals of the Forum and the Building for Tomorrow grant. First, Building for Tomorrow Steering Committee members were selected from the original Forum planning group (intended to exist only through the completion of the Forum), and from volunteers and key informants with whom the Advisory Group talked to the Fall of 2017. Members of the group include: Matthew Allen, Brandon Butler, Aliza Leventhal, Nance McGovern, Jessica Meyerson, MacKenzie Smith, Ann Whiteside, and Carrie Bly.

A meeting of the Building for Tomorrow Steering Committee (SC) members was convened in May 2018 with the goals of refining the strategic directions from the Forum, and identifying a plan of work for the next few years. The strategic directions and priorities were refined by the SC, and prioritized according to sequencing of the work over a period of 3-5 years. The steering committee also worked to integrate observations made in the forum that were not initially captured in the strategic directions and priorities, such as the need to incorporate disciplines not represented at the forum. (It should be noted that goals such as incentivizing

designers to be more involved were not prioritized because more detail was given to projects that could be accomplished in done 3-5 years.) A copy of the strategic directions and priorities as refined by the Steering Committee can be found in Appendix 6.

As the Steering Committee worked, we came to the conclusion that a set of strategic directions with specific tasks to move our work forward will only work if we have a coalition of collaborators: Librarians and Archivists (owners/stewards of the material), Practitioners and Creators (creators of the material), Historians and Researchers (users of the material), and Digital Preservationists (stewards of the material's substrates and support-systems). The Steering Committee and project leaders are now in the process of creating a framework for this coalition of collaborators.

Since May, a no-cost extension to the grant has been given in order to engage DADE community members that were not able to be present at the Forum, specifically software vendors with whom we want to engage, and to support a meeting of the three current IMLS projects focused on 3D preservation (Building for Tomorrow, CS3DP (Community Standards for 3D Preservation), and LibB3DVR. The grant extension will also fund one more meeting of the Steering Committee which we hope to use as a jumping off point into formalizing a DADE coalition. It is this coalition which might be best poised to follow up (with SAH) on the creation of a survey of DADE users needs, which was a suggested action at the conclusion of the Forum.

In the meantime, the work of building for tomorrow has been comprised of outreach and engagement. This report has been written and disseminated to Forum attendees, and those beyond the Forum who have expressed interest in Building for Tomorrow, via a listserv. The listserv will continue to be used to communicate with those who want to stay engaged or informed of our work. (A list of forum attendees is also included in the appendix for one on one communication needs.) Project PI Ann Whiteside has participated and presented on the work of Building for Tomorrow in the following forums and articles:

- Whiteside participated in the CS3DP Forum in January, 2018 at the University of Washington, St. Louis
- Whiteside participated in the LIB3DVR CLIR meeting in March, 2018 at the University of Oklahoma
- Whiteside wrote an article to be published in Arredamento Mimarlık Magazine's special issue on the data management, preservation and access of born digital architectural archives, guest edited by Melis Cankara.
- Whiteside presented the work of Building for Tomorrow at the Research Forum of the Society of American Archivists annual conference in July, 2018.

Whiteside and the members of the Forum planning group thank everyone for their participation in the Forum for their and investment in the issues that were worked through. There were many people and institutions involved in bringing together the different communities represented at the Forum. We want to thank Institute of Museum and Library Services for their generous support of this work. We want to thank the Society of Architectural Historians for their engagement and willingness to support the Forum at their 2018 annual conference. Thanks also go to the members of the planning group: Aliza Leventhal, Nance McGovern, Jessica Myerson,

Pauline Saliga, and Andrew Witt. And thanks also go to Charlotte Leib and Carrie Bly, who have worked with Whiteside to manage the grant project.

Appendix 1 - Building for Tomorrow Forum Agenda

Building for Tomorrow Forum Agenda

Hosted by the Building for Tomorrow Grant Planning Advisory Group
St.Paul River Center. St.Paul, MN

April 17, 2018 / Day 1

Lunch and snack provided

- 12:00 - 1:00pm **Welcome, Forum Overview, Grounding**
Introduction by Ann Whiteside and Christina Drummond.
Presentation of past and current efforts in digital archiving by Ann Whiteside, Aliza Leventhal, Kit Arrington, Veronica-Gaia Ikeshoji-Orlati, Will Rourk, and Jessica Meyerson.
- 1:00 - 2:00pm **Collaborators in the Room**
Finding shared interests and unique challenges
- 2:00 - 2:15pm **Break**
- 2:15 - 4:40pm **Surface and Flush-Out Current Barriers/Issues/Needs**
Relevant frameworks presented by Ann Whiteside, Nance McGovern, and Aliza Leventhal.
- 4:40 - 5:00pm **Priorities and Wrap-Up**
Day 1 overview and Day 2 preview by Christina Drummond
- 6:00pm **Bart Voorsanger Archive Panel Discussion and Reception (Optional)**
St. Thomas University, St.Paul, MN

April 18, 2018 / Day 2

Breakfast, lunch and snacks provided

- 8:00 - 9:45am **Breakfast, Review Priorities and Effort Roadmapping**
Prioritizing directions, identifying needs by profession and shared interests.
- 9:45 - 10:00pm **Break**
- 10:00am - 12:00pm **Working Sessions**
Flushing out issues and projects in planning teams
- 12:00 - 1:00pm **Lunch**
Attendee nominated topics for discussion
- 1:00 - 2:00pm **Planning Next Steps**
Small group work
- 2:30 - 3:00pm **Group Discussion**
Propelling the work forward after the forum
- 2:45 - 3:00pm **Break**
- 3:00 - 3:30pm **Closing**
Review of grant deliverables and next steps, by Ann Whiteside.

Appendix 2 - Building for Tomorrow Forum Participant Contact Sheet

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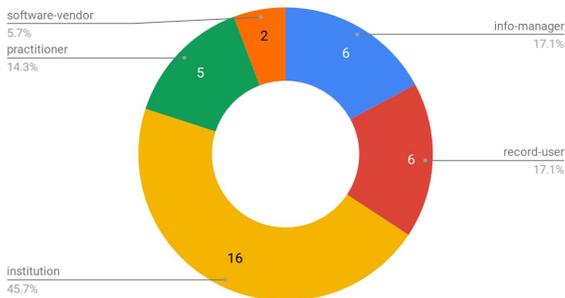
Appendix 3 - Stakeholder's Record and Resource Prioritization survey and results

This survey was conducted through a Google Form. Aggregated responses are shown following each question. Nineteen participants responded to the survey.

Introduction: In preparation for the Building for Tomorrow (BfT) Forum in April, the planning/advisory group has prepared a survey for you to complete by March 9th, 2018. Responses to this survey will allow us to identify which types of architectural, design and engineering (ADE) records that are of greatest importance to stakeholder groups represented at the forum. Additionally, we are interested the relationship between record types and the software tools are used to create (and access) those records. Findings from the survey, in addition to other resources, will inform forum discussions. Thank you for your contribution of time and expertise. We look forward to seeing you at the forum in April!

1. Name: [Fill in the Blank]
2. Organizational Affiliation: [Fill in the Blank]
3. Which stakeholder categories do you identify with? [check all applicable]
 - Information Managers (e.g. Facilities Manager, Owner-Project Manager, Records Manager)
 - Records Users (e.g. Academics, Architectural Historians, Lawyer/Researcher)
 - Institutions (e.g. Archivist, Digital Preservationist, Curator)
 - Practitioners (e.g. Designer, Engineer)
 - Software or System Vendor
 - Other

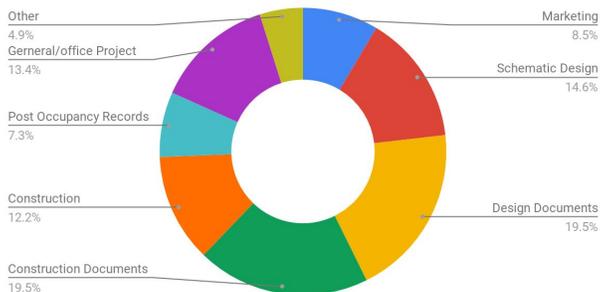
Stakeholder Identification (Response)



Note: 19 participants responded to the survey; a number of stakeholders identify with more than one role.

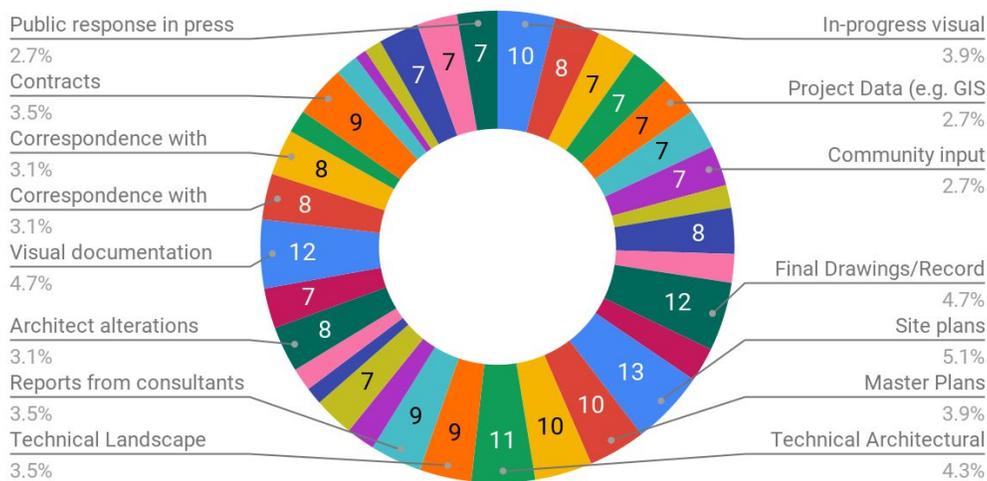
4. Select all of the phases of an ADE project's records that are most relevant to your stakeholder group and/or research.
 - Marketing
 - Schematic Design
 - Design Documents
 - Construction Documents
 - Construction Administration
 - Post Occupancy Records
 - General Office/Project Files
 - Other

ADE record phases that are most relevant to participants group (response)



5. Which project records does your institution/office deem significant and important to save?
- Request for Proposals/Qualifications and Marketing Materials
 - In-progress visual representations (e.g. illustrative plans, sketches, developing physical models)
 - Presentation materials (presentation drawings, Powerpoint slides, Indesign files)
 - Computations/basis of design
 - Schematics
 - Project Data (e.g. GIS data/database, statistics)
 - Client provided documents
 - Community input
 - Code review/analysis
 - Meeting minutes with client re design
 - Materials/product samples
 - Final Drawings/Record Sets
 - Drawing schedule
 - Site plans
 - Master Plans
 - Specifications (e.g. plant lists, irrigation, electrical)
 - Technical Architectural plans (including structural, mechanical, details, etc.)
 - Technical Landscape plans (including grading, irrigation, etc.)
 - Reports from consultants and engineers
 - Bid Sets and Documents
 - Shop Drawings
 - Construction Reports (daily, weekly, or monthly)
 - Construction Communications (e.g. change orders, decision logs, submittals/requests for information, punch lists)
 - Architect alterations
 - Field sets (originals and annotated)
 - Visual documentation (ex. photographs, videos, negatives, slides)
 - Correspondence with clients
 - Correspondence with contractors/subs
 - Telephone notes/ emails
 - Contracts
 - Legal documents
 - Financial records
 - Personnel records
 - Awards
 - Publications by firm or client
 - Public response in press

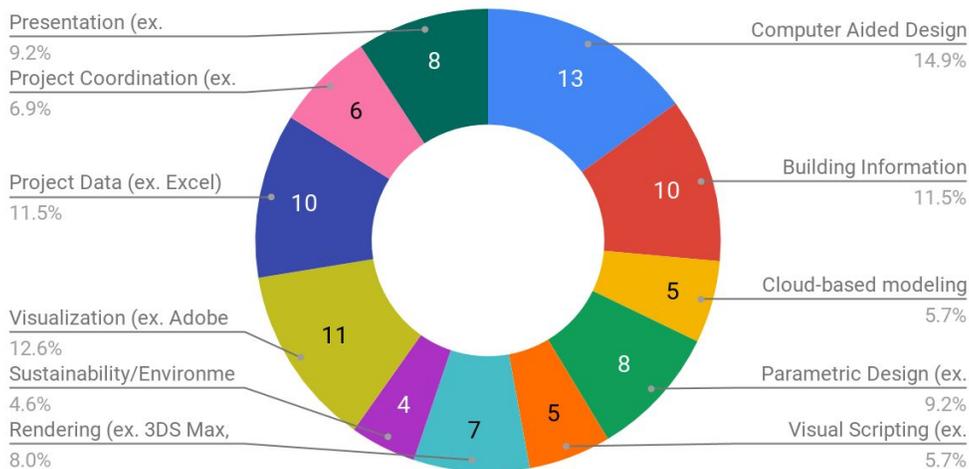
Project records\ deemed significant and important to save (response)



6. What records, not included in the above list, are important to you or your institution/firm? [long answer text]
- Responses: 3D raw data and derivatives; 3D scan data at all phases - raw, processed, derivatives; We are most interested in records that document the building/site as built, including building plans on file in the city/county planning office, plat maps, insurance maps, infrastructure plans, assessment maps, etc.; Models and historic equipment; regulatory approvals - permits, certificates, inspection reports, etc., LEED documentation, commissioning reports, ARC Flash studies (NFPA), geochemical / geotechnical reports, operation and maintenance manuals; As built photographs.

7. Select which software types that you associate with the project records you identified as significant/important in the previous question.
- Computer Aided Design (ex. AutoCAD, Civil 3D, Microstation)
 - Building Information Modeling (ex. Revit)
 - Cloud-based modeling tools (ex. A360, GreenBIM)
 - Parametric Design (ex. Rhino, Sketchup)
 - Visual Scripting (ex. Grasshopper, Dynamo)
 - Rendering (ex. 3DS Max, V-Ray, Lumion)
 - Sustainability/Environmental Analysis (ex. Ladybug, Honeybee, Kangaroo)
 - Visualization (ex. Adobe Illustrator, Adobe Photoshop)
 - Project Data (ex. Excel)
 - Project Coordination (ex. email, bluebeam or adobe, conference call recordings)
 - Presentation (ex. Powerpoint, Indesign)

Software types associated with project records per previous question (response)



8. Are there other software, whether specific programs or categories of software, not mentioned above that are important to the design process? [long answer text]

Response: Processing raw 3D data (FARO Scene, Geomagic, Meshlab); real-time VR tools (Enscape), though this could technically fall under Rendering; raw scan data collection software ex. FARO Scene, VX Elements, Agisoft Photoscan; 3D scan data processing software ex. Geomagic, Meshlab; GIS; e.g. Unreal Engine 4 (VR visualization)

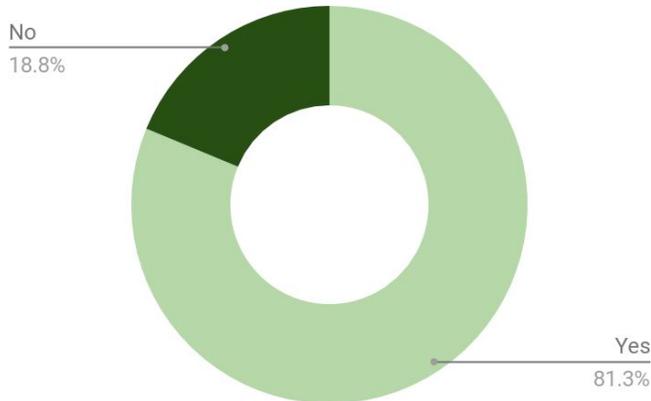
9. Is there anything you'd like us to consider in approaching the issues of preserving and providing long-term access to design records? (This information will be used to ensure that the topics of greatest interest to participants are incorporated into the forum agenda.) [long answer text]

Response: Storage solutions, back up solutions, obtaining software to utilize different formats of architectural drawings and records; There is a sliding scale of value for the records I've selected, over time the construction records become less important as part of the legacy, even though they're critical during the statute of limitations immediately after our built work is completed; inclusion of 3D data as primary source data for the existing conditions of sites and site features for both historic and current structural and detail documentation, both standalone or included in BIM, GIS or other systems; The solution, if there is one, needs to be relatively easy and scalable; Consider 3D data collecting processes such as laser scanning as data layers just as important as project drawings or 3D modeled layers in BIM; Support for platform-neutral interoperability standards for model and data, like what is developing with IFC and buildingSMART efforts, seems like a very promising solution towards a format that could also become a standard for archiving / preservation; Possible validity of formats like PDF and TIF as surrogates for CAD files (either as access copies or as true surrogates); authorship, collaboration, changing meaning of records over time to different people; appraisal; Developing an understanding of potential use cases: how to proactively engage with future researchers/users?

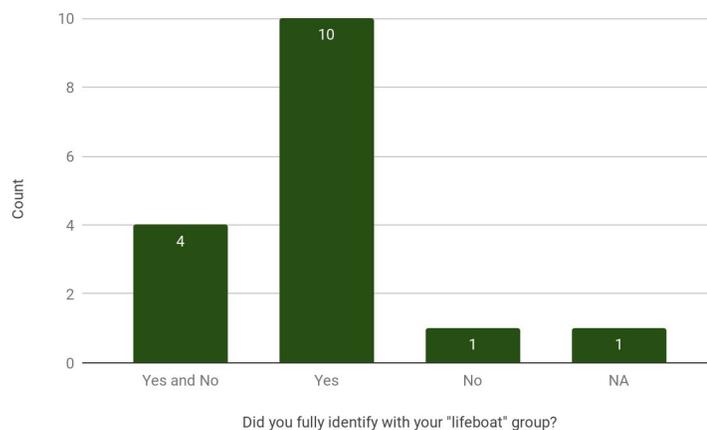
Appendix 4 - Post-forum survey and results

This survey polled Building for Tomorrow forum attendees on their experience at the forum. Responses were gathered between April and May, 2018. Sixteen participants responded.

1. Was this the right group of people to have in the room?



2. Did you fully identify with your "lifeboat" group?



Yes and No Additional Comments:

"Eventually though I was sometimes working on organizing things."

"Working as a curator in an architecture museum, my tasks are related to that of architectural historians in archives and libraries, but I would have appreciated more representatives from museums."

"I identified with those who do my same job elsewhere, but felt that I could equally have been in other lifeboats. We wear so many hats in our jobs, and the questions are still so broad, that these separations didn't feel particularly effective."

"Yes, although I feel I could have fit in more than one "lifeboat.""

"Yes; our lifeboat wasn't the most vocal in the larger group, it was a relief to recognize that there were several of us in the room"

No:

Not entirely, it would have been helpful to have had more guidance from the organizers to articulate why each participant was invited

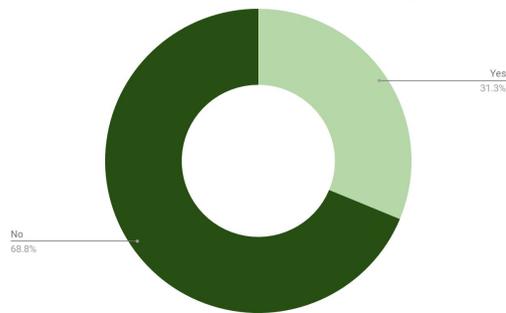
Yes:

Yes, even though there were few of us identifying as "technologists", I feel very strongly that I fit that category

NA:

It was an interesting, useful & engaging ice breaker, plus a convenient way to find your counterparts and generate discussion. It also helped reinforce name, institution, viewpoint recognition of the other participants.

3. Would you have created additional or other groups?



If "yes" what group(s) might they be?

"I couldn't quite say no in question 3, but it's more that it might have been good to allow people to switch boats or to revisit if there were any missing boats, but it worked out okay"

"Facilities Managers"

"I think what we really needed were groups made up of a single individual that contributed to the overall process, i.e., architect, architectural historian, archivist, digital archivist, metadata expert, etc."

"Not that gov is any different, but that could be a group (downside, it may be too narrow), and facility/campus managers. Future viewpoints might include educators (from ADE, MLIS or "I" programs) and/or vendors."

"I would have had fewer groups – and encouraged dialogue between more of us."

"Perhaps groups focused more on engineering and/or design outside of the architectural field"

"Other groups could have included representatives from software vendors, the engineering community, and other users"

4. **Who was missing from the meeting?**

"We had some people on the planning list who would have been great to include but I understand not everyone could make it."

"There could have been more IT/digital preservation professionals as well as architects/architectural historians"

"Getty, CCA, Facilities Managers from institutions, more Designers (not just architecture), more academics, software vendor folks"

"The people who would be finding a way to make the digital materials searchable on the web."

"As we self-identified in ideas for path forward, educators, would be great. Vendors would be great, yet problematic. Reps from like minded professional associations/entities. Helps with goal to build bridges and communalities."

"Curators and archivists from the museum sector."

"Vendors, engineers, more architects/firm reps, architectural educators"

"University of Minnesota - Northwest Architectural Archives"

"Software vendors, but they were at last November's meeting and I'm sure will be involved in future."

"More archivists, and more users."

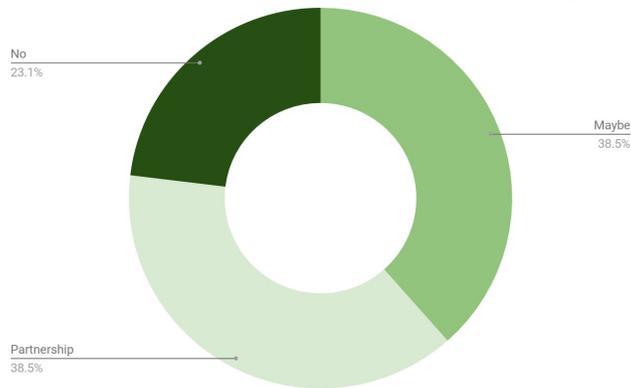
"engineers, other non-architectural designers"

"It might have been productive to engage with one or two representatives of the software industry. They are key to understanding some of the legal and technical challenges."

5. **Do you know specific people or organizations that should be included in the future?**

"maybe USIBD - US Institute of Building Documentation - <http://www.usibd.org/>. I spoke with them a few years back and they were interested in a lot of similar things like metadata and archives." ; "Architecture museums such as ICAM members should be contacted: we should be reaching out to international organizations such as RIBA and FRAC to see where they are at and what knowledge they might share. CCA should have sent a representative." ; "Vendors, engineers, more architects/firm reps, architectural educators" ; "There were good lists on the various charts." ; "University of Minnesota - Northwest Architectural Archives" ; "Antoine Picon might be very useful. He's sortof the head of a more traditional "archive" (Le Corbusier's) and he's been thinking about digital stuff. He could be included in some events at Harvard, at least." ; "RIBA, Victoria and Albert Museum. London. Canadian Centre for Architecture. Various national archives" ; "Perhaps reach out to facility managers and HBIM communities. (BTW, there's a new ISO 41001:2018 for facility management systems, likely more maintenance/service tracking, not generating ADE formats, still ADE files might be uploaded for reference.)" ; "I'd like to invite a few other people that help to support this effort at Ball State from our Metadata and Digital Initiatives Department." ; "Getty and CCA come to mind, perhaps someone from AIA beyond Nancy, perhaps someone from Autodesk" ; "Not really - it was a good mix, though including some people who couldn't make it would be good" ; "The representative from Nemetschek/Vectorworks who attended the LC meeting in November seemed thoughtful and engaged."

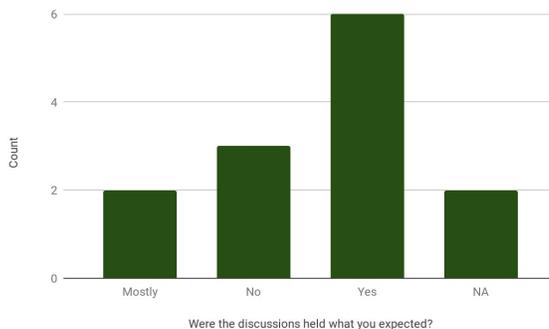
6. Should this initiative be led out of a particular professional organization?



Comments:

"Possibly I wonder about having an organizing group with pop-up meetings at SAA, NDSA, repeating at SAH "; "There would be more gravitas or weight behind organizations, but I'm not sure who is the best to lead the charge. "; "I see the benefit to this, as a way to harness the momentum of the forum and keep it going, though I do not think a particular organization is better than another (saa vs aia, etc)"; "No, it requires diversity. If it is too focused by a particular organization, you will only see one side of the story. "; "I would caution against a single group, as I think the ideal would be a consortium/partnership of 3-5 groups who agree to support the aims/goals and collaboration."; "not sure about that - i think this is pretty squarely in Library jurisdiction so I would keep it there. but working tightly with any prof orgs."; "SAA seems like a better fit -- having this event at SAH did not feel appropriate."; "I'd suggest SAA for coordinating the overall project and AIA for involving firms."; "Definitely SAA, but possibly in partnership with others (ARLIS, SAH, SLA, ALA, etc.)"; "SAH should be an affiliate; I think it should be a confederation of groups in several organizations."; "No, not necessarily. I think the particular strength of the initiative is the work across multiple communities of practice and types of organizations."; "No, but I did often feel that professional assumptions were in play that I wasn't fully engaged with. A group of people seemed to know one another well and share language, etc. This is natural but this disciplinary center of gravity might be acknowledged"

7. Were the discussions held what you expected from this conference?



Comments:

"Yes, engaging and insightful"; "I wasn't sure what to expect, but felt like the discussions and resulting document was spot on."; "For the most part yes, but I did feel as though there may have needed to be more technical discussions around the different components of architectural work that need to be archived, like for ex. 3D data."; "There should have been time/opportunities for those attendees who are already working through these issues to present their workflows and processes: from archivists in firms, to archivists working with these types of files in their collections."; "Yes. This was beyond my expectations. Wonderful foundation for actually moving forward. It's crucial to know that each of us tackling separate smaller pieces can coordinate our work."; "Not exactly, it didn't quite feel like a continuation of the November meeting but the agenda didn't feel entirely clear either with mentions of infrastructure and radical collaboration, I didn't feel like I could speak to either things confidently"; "They didn't exactly go in the direction of execution as expected."; "Mostly - the map was useful but we might have built it up more incrementally and I thought we might incorporate or revisit the radical collaboration part"; "No. I did not think we would do so many small group exercises/moving around the room, and did not think the direction of the discussions was effectively conveyed pre-conference. With that said, I did enjoy the forum."

8. How did the pre-reading impact your perspective/understanding of the issues?

"The pre-reading was relevant and up to date." / "I was already familiar with all the pre-readings."

"Useful to help ensure everyone is on the same page with the evolving efforts and progress to date"

"Very much. Reading the Facade report, for example, confirmed for me that the ways of thinking about use/access need to be changed or augmented (give me the piles of data! I think this is called the "Collections as Data" approach)."

"It helped, but portions of it were difficult to conceive. "

"It was helpful as a base layer" / "They were helpful" / "Pre-reading was helpful"

"The pre-reading was a helpful brush-up of the work that had been done, and made me realize that we just keep talking about these problems without actually finding a solution!"

"The pre-readings helped a lot as both a reminder and a refresher of what was done before, and they provided a nice framework for starting the Forum conversations."

"The readings were absolutely essential and well chosen. I don't think I would have understood the preceding context without these papers, esp Designing the Future Landscape and FACADE, preceding DFL."

"I am a scholar who is relatively technically proficient. Still, I found myself swimming in an unfamiliar sea of acronyms and jargon sometimes and therefore could not always participate meaningfully in the discussion. The readings helped a little"

9. Which were the most useful conversations we had on Day 1? Day 2?

Day 1

- generating the giant node map.
- discussion of the different preservation models, OAIS, PAIMAS, DAP, etc
- Lifeboat and comparison of current reference modeling
- Effort Map Building
- adding efforts to the roadmap
- Surface and Flush-Out Current Barriers/Issues/Needs

Day 2

- discussing and prioritizing the strategic plan.
- discussions about the road ahead and connecting with other efforts
- Rolling up/identifying primary concepts to address/tackle
- Lifeboat Working Sessions
- the discussions at the 5-6 priorities stations
- Working session: identifying key areas of focus for moving forward, also identified multiple and varying priorities for participants

Throughout / Overall

- it was so valuable to see how other groups commented on each paper, and the small group conversations that arose from that.
- I think all of the conversations were useful as they built off each other as well as allowing for focus on broader and narrower issues
- Discussions on what makes a Digital Design Record significant, on appraising these records, on how to establish best practices.
- Hard to point out. It was well organized as one workflow, developing the various issues
- "I learned the most from the Voorsanger Archives Conversation. It was a great example of how to execute in a collaborative manner with minimal resources."
- Hearing the group results
- "For me, the most useful result of the meeting was the knowledge that so many intelligent and hard-working people are grappling with the problem of file obsolescence in architecture. It's hard for me to identify any particular most-useful moment"

10. What role do you anticipate playing/level of engagement as we formalize the roadmap?

"I can help with research and compiling info to be digested/parsed by lead writers"

"I would be happy to try to rally support among historians and bridge to the librarian/archivist side. For example I could help organize a methods seminar or workshop at Harvard for architecture PhD students"

"I hope to work with the main strategic group to help coordinate engaging firms in the development of good practices/standards/business cases."

"Helping to identify and clarify 3D assets that will need to be collected and preserved"

"Participating/building a future user study, so that we can think about potential future use cases when we think about access. Liaising with similar collection repositories to share ideas, successes, failures, workflows - to work towards best practice."

"Unsure - would like to remain involved in some way."

"In the BFT discussions, I may have been more capable of defining problems than solutions but as the roadmap becomes clear, I will play whatever role will be useful to the larger group within the limits of my skills."

"Corresponding member. It Depends on how you foresee to include European institutions."

"Ball State is preparing to execute this task in the near future as they accept new donations. It will be an interesting case study that I'd be happy to share successes and failures."

"I would like to be actively engaged, though I did not walk away from the forum knowing how participants would be engaged by the forum organizers. We did the stickies of what *we* would do at the end, but not what organizers would do with us."

"I would like to increase my engagement and continue to consider research, grant, and collaborative opportunities across various communities"

"I'm invested and care about where this goes. I'm not sure how much time I can invest, but would do as much as I can. "

"serving on the steering committee - helping to review results, raise awareness - fairly active "

Appendix 5 - Building for Tomorrow Forum Full Meeting Notes

April 17-18, 2018 / St. Paul, MN

Notes were recorded by Aliza Leventhal and Christina Drummond on April 17 & 18, 2018, and compiled by Carrie Bly on August 31, 2018.

Day 1 / Tuesday, April 17

Welcome, Forum Overview, Grounding

Introduction: Ann Whiteside

- Scope of Building for Tomorrow project: USA Focus/national efforts *and* born digital objects only.
- Goal is to develop an action plan for 3-5 years to move preservation and access of digital design records forward

Radical Collaboration: Nancy McGovern

- The goal of radical collaboration is to work across communities. It first requires that you understand who you are (where you work and your professional background). Perceptions of archives and archiving vary: E.g. organizations focused around records and has principles; E.g. Aggregations of content, storage etc.; E.g. Capture/document. To engage in community each must define who we are and how we connect.
 - Digital Practice
 - Continually working
 - Lessons learning
 - Collaboration - working together on things we agree on, accountability and consequences to not doing your part
 - Radical Candor
 - Structuring feedback - kindness is only a part
 - Radical Collaboration is across communities
 - Engaging personally
 - Participating directly
 - Who is at our table today? Who else should be at the table to have the discussion we want to have?
 - Technical inclusion
 - Professional inclusion
 - Race/Ethnicity inclusion
 - Find out why people feel excluded!
 - Emerging distributed digital practice
 - Continuously devising, ongoing effort to explain the plan.

Guiding Principles: led by Christina Drummond

- No idea is bad
- Ask tough questions
- Clarify language
- Mention Context/perspective "hat"
- Be flexible/mindful of diversity
- *Inquiry over Advocacy*
- Agree to disagree, open to hearing dissenting opinions
 - Highlighting those areas
 - There are multiple right answers

Presentation of Past and Current Efforts in Digital Archiving: Multiple Presenters

- "Collecting, Archiving and Exhibiting Digital Design Data" initiated by the Art Institute of Chicago, 2004. Presented by Ann Whiteside. Project Recommendations include:
 - 6 distinct phases/stages from office to archive
 - Assigning practitioner some of the work (organizing and naming best practices)
 - Context shared about file creation and use
 - *A lot of focus on process*
- MIT FACADE, 2007-2009. Presented by Ann Whiteside.
 - Moshe Safdie, Thom Main, Frank Gehry
 - 5 major outcomes
 - Preservation Versions: Original, display, standard, dessicated
 - *Emphasis on preservation, with some focus of files*
- Society of American Archivists (SAA) Design Records Section recent work. Presented by Aliza Leventhal. Within this group there is a CAD/BIM taskforce (Aliza is continuous member 2012-13). The group has the goal to improve all design record

collecting ability to accession, process, describe, preserve, and provide access to digital design records. They wants all organizations of any size to be able to do this... so providing resources to help: Reference resources (as a bibliography from 2000, in English lang) and an Appraisal grid (for CAD) updated for digital; creating 1 sheets about formats pros and cons; presenting at conferences of variety of topics.

- Library of Congress Summit on digital Architecture, Design and Engineering Assets. Presented by Kit Arrington. The summit was Nov 16, 2017 and included a variety of stakeholders. Focused on Bringing all the stakeholders together to develop educational resources to help inform, engage and continue learning. It had a lot in common with the work of Building for Tomorrow.
 - Primer session - introduced issues around technology
 - Tim Walsh - ex. Word processing software eventually "grew up" and adapted, embracing standards to ensure communication
 - Active Creation session - big record creators, what are they doing
 - Research session - current researchers' use of digital design records
 - Standards and Initiatives - what standards are created
- Community Standards 3D Data Preservation (CS3DP - IMLS funded) / The year for 3D Data. Presented by Will Rourk.
 - Foundational community meeting early 2018 (February 5-7)
 - 3D Data boom and Data Curation Priorities have grown in the last 10 years (2008-2018)
 - Surveying community regarding 3D preservation in 2017 (over 100 respondents)
 - Fora held to bring together Community of Practice to create broad/informed investigation and investments
 - Outcomes: Community-developed plan; Recommendations for standards and best practices; A report and publication to come!
 - Panels & Discussions & Working Groups: Preservation Best Practices; Management and Storage; Metadata; Copyright and Ownership; Discoverability
 - Next meeting in August.
 - Contact at: CD3DP.org ; Slack channel ; @CS3DP
- CLIR 3D/VR (IMLS micro-grant). Presented by Veronica-Gaia A Ikeshoji-Orlati.
 - 3D/VR Content Creation and Education Best Practices (tagline not verbatim)
 - Colloquium held in April
 - Cross pollinate disciplines of humanities, sciences, libraries, etc.
 - How do you elevate awareness and need for creators to uphold certain practices to ensure records are in better shape to be preserved/transferred to archives
- Building for Tomorrow 2017 ADE Stakeholder Survey. Presented by Jessica Meyerson.
 - Inspired from LoC Worksession
 - Survey surfaced types of data and of software that were not noted in the survey options / choices.
 - Limitations: Need more responses! Need to ask respondents to actually prioritize the record types they value; Map the software to record types; Stakeholders - surprises or expectations?

Working Sessions 1 & 2: Identifying Shared and Individual Themes

(led by Christina Drummond)

Five groups were created, called "lifeboats", according to areas of expertise. Each group took their own notes

(http://bit.ly/B4T_Perspectives4); the notes were then presented to the group and written on large charts. These chart notes have been transferred to the following chart:

Small Group Discussion

Perspectives in the Room	Working Session 1: What makes a ADE record significant?	Working Session 2: Stakeholder needs and challenges
Group 1: Collections Archivists http://bit.ly/B4T_perspective1	<ul style="list-style-type: none"> ● Collection development policies: Scope; Funding! (for processing and preservation); Theoretical vs. practical significance ● Patron needs: Research for restoration; Original design intent / design development; Relevance to other collections; Educational value; Emotional connections ● Legal requirements 	Unique Needs <ul style="list-style-type: none"> ● Client/firm compliance w/ standards ● Communication w/ donor ● Donor agreements and legal agreements ● Communicating preservation concerns to donors and active donors ● Access to digital preservation tools ● Long-term digital storage and minimal IT support ● Technical infrastructure ● Gathering collections w/ born digital design files ● Need to understand the completeness of the records in the collection - what is not present

	<ul style="list-style-type: none"> ● NOT JUST DRAWINGS: context/project records; Correspondence / email ● ? are we assuming cultural significances 	<ul style="list-style-type: none"> ● University buy-in ● Appraisal the context of the records provided - what project? What building? <p>Challenges</p> <ul style="list-style-type: none"> ● Staffing/resources ● Time ● resources/time ● Formats ● Technology skills ● Large amount of legacy media ● Appraising b-d records for future arch. Historians ● Staffing w/ expertise ● Need more archivists with knowledge of architecture ● Technology resources ● Established born-digital preservation workflows ● Better understanding of changes in software used by architects ● Deed of gift ● Making the case with institution's digital preservation unit ● Institutional understanding and buy-in for complex ● Solo operation with almost no budget ● Increased archival supply budget ● Funding ● Storage = \$ ● \$ ● Space (digital and physical) ● Collaborative efforts across archives/digitization/architecture ● Stakeholder engagement + education ● Donor communication ● Space issues
<p>Group 2: Technologists http://bit.ly/B4T.Perspective2</p>	<ul style="list-style-type: none"> ● What tells us a file is "significant" ● Info vs. evidence (of significance) ● How well the data gets combined to accurately represent the environment ● Accurately represents the "subject": Complete > provenance and metadata and all required files w/ linkages > dependencies ● It has been determined to need to be preserved: Should be before it gets to the technologists ● Organization needs (could be at-risk if not preserved) ● ROI: A record may be significant if it supports the ROI (ROI to be determined by orgs) ● Preservation planning: Feedback loop; Technologists > this is now a need ● What should be preserved 	<p>Unique Needs</p> <ul style="list-style-type: none"> ● Unique terminology; it can conflict with other perspective/use/vocabulary ● Preserving solutions that work for the records that the creators/curators select for preservation ● Technique training ● Technology upgrades ● Time frame: technology time frames are shorter than those of curators, archivists, community builders ● Sustaining technological advancement ● Virtual reality platforms ● Crowd-based annotations tools ● Artificial intelligence systems ● Device maintenance ● More precise measuring technologies / techniques ● Equipment ● training <p>Challenges</p> <ul style="list-style-type: none"> ● Cloud-based infrastructure ● Equipment costs ● Scalability ● Challenges: long-tail of formats ● Funding ● cost/availability of software used to create/render files ● Keep up with technical advancements ● Proper training ● Reticence of org. to use OSS software ● ROI calculators ● Convincing administration that this is important!

<p>Group 3: Historians, Architectural Historians, Curators http://bit.ly/B4T_perspective3</p>	<ul style="list-style-type: none"> Engages the imagination at work that shows/reveals the creative practices from multiple POVs; Social and professional contexts; Negotiation of professional norms Contains valuable information of creativity, the built environment (including examples) Accessibility Reusable - a way to interact/make use ENGAGES with the present aesthetic value Rarity Provenancial chain of custody Fame of producer > by association 	<p>Unique Needs</p> <ul style="list-style-type: none"> Access in 50 years Access to as much as possible Access, access, access Save as...[archival, stable drawing format] Access to files the way a firm saw them \$ Means of relating disparate objects/sets Giving a broad public a unique experience Ability to show creative (digital) process in context for exhibit or tour Desire to casat / document wide range of people in design/construction of built environment Acknowledge / preserve hybrid physical / digital Juxtaposition of physical formats with digital in tours/classrooms Desire to visualize creative process and engagement of architects <p>Challenges</p> <ul style="list-style-type: none"> Hairballs Define content [prioritize] As-built docs Iterations Design info from non-star practitioners Records of materials choices Dimensional information Access to complete drawing sets (plans, etc.) Means to show objects in a tome with physical objects Proliferation of interfaces Documenting the messy transitions of tech use Weak technical/IT competence within the department/institution Long-term technology preservation (format issues) Technical literacy (lack of IT) No overall collections plan conc. Digital strategy Proliferation of records Bad deaccessioning decisions of the past Inadequate descriptions Incomplete info Competing info
<p>Group 4: Architect / Corporate Archivists http://bit.ly/B4T_perspective4</p>	<ul style="list-style-type: none"> Legal/financial - term limited significance: Mandates and liability: (state laws work against preservation) Authenticity / Authority / Integrity Continued use (dynamic not static): Continued work with projects (access) * lifecycle Contextual feasibility study: Documenting research Disruptive / ingenuitive Cultural significance (frowny face) Missing: long term preservation and use Legal exposure vs. revealing work Cost effectiveness...contextual relationships between records (access / intention) 	<p>Unique needs</p> <ul style="list-style-type: none"> Embedding preservation in practitioner workflow Ease of access Researchable content instruction/teachable/learnable Must be able to use in design process or they're not useful Usefulness to owner in the future Accuracy to built condition Advocacy to raise awareness & interest Concerns about intellectual property and client security <ul style="list-style-type: none"> Privacy and security of clients, they don't want everyone to have access to see the mechanical systems of their building for example. If it isn't built into the normal workflow it won't happen Statute of limitations <p>Challenges</p> <ul style="list-style-type: none"> Time and attention at project close-out What's the ROI? <ul style="list-style-type: none"> History/culture isn't billable Difficult to make business case No time to learn to be an archivists - if firm doesn't have one of staff

		<ul style="list-style-type: none"> • Time and fee attention @ project close-out • Not a priority of the firm • Accountability content generators/creators to deliver context • Meaningful search results • The higher the dollar value as significance RM/Archiving built in cost-estimate • Understanding context • Investment in myriad software <ul style="list-style-type: none"> ◦ Unique practices of individuals • Every project is unique • Risk management and liability
<p>Group 5: Catalysts and Community Builders (CCB) http://bit.ly/B4T_perspective5</p>	<ul style="list-style-type: none"> • SET of records • Unique • Completes a set • What is point of your collection • Significance now and in the future • Appraisal process determines significance • Is it preservable / usable and reusable • Perceived as important (content, context) • Perception can change over time • Cost > Return on Investment (does it make sense to do?) • Authenticity: Architecture is process > How are things really getting done; Credit to idea / final actions / project movement; Legal challenge • Not accepting something implies a value judgement • Collecting scope based on funding support • Need community based collection scope 	<p>Unique Needs</p> <ul style="list-style-type: none"> • Overall pres n might be not ideal but organizational awareness rising = opportunities. • Limited professional expertise. • Proficiency with, and access to, software of origin. • Cost (\$ or people). • Limited digital preservation infrastructure. • Limited digital storage. • Scale. • Small staff for amount of work. • Community-built view of significant collections - linked collections. • Usage - for whom, by whom, for what are we preserving. • How do we define significant as a community? <p>Challenges</p> <ul style="list-style-type: none"> • No digital collections (a few items) • Continual action over time • Timeline - long and short-term needs • No crystal ball for future proofing • Communication • Building community of the willing • Collaborating across community = challenges. • Keeping community interested. • Keeping track of stakeholders. • Community guidelines. • Expectations of leadership

Large Group discussion: Surface and Flush-Out Current Barriers/Issues/Needs

All participants were then brought together to reflect on common issues that surfaced in discussion.

- Clusters of Issues
 - Funding / \$ / ROI
 - Tech skills (resources / education / staff)
- It was hard to find what is unique
 - Because folks in the groups wear many hats.
 - Ex. Statute of limitations is unique
 - You wouldn't care about statute of limitations if it didn't matter to lifeboats
 - Statute of limitations and its intersection with long term preservation (Mary and Aliza)
 - Reason to delete (culture of significance)
- Transfer to others
 - Analogue to research data
- How you focus
 - Eg. getting sued, supporting infrastructure
 - Have to communicate across stakeholders
- Crosswalk from paper > digital through software > software
 - Erase marks to digital forensics
 - Need for accurate metadata; Accurate detail metadata is assumed when we say we need better technical know-how; Trustworthy digital pipelines

- Record creators and archivists - two sides of a transaction
 - Continuity between modes of expression, and continuity between creators and archivists
 - Buy in from other departments in their organization to invest in adequate preservation
- Difficult to find common issues; Each of us play a different role in the common issues: so how do we prioritize our work together when we share the issues but prioritize them differently?
- Technology impacts
 - Technologists come in in implementing the business rules or considering them as part of early design
- Needs tend to be more unique, but challenges are not
- We all have the same issues but they are more narrowly defined through our perspectives

Does it feel important for framing of these issues in terms that each role specifically understands?

- William: Continuity is a theme here - how do we tell of the story of architecture without telling the story indirectly or directly about changes to community, technology, etc.

Intersections of Lifecycle Frameworks

(led by Christina Drummond)

In this session 5 frameworks were presented and then assessed as a group

Frameworks

1. Major Facilities Life Cycle Phases (Fallon 2.1.7)
 - a. Iterative
 - b. Defining what's important
 - c. Process-centered model
2. DCC Curation Lifecycle Model
 - a. Research data framing
 - b. Curation bridge building across disciplines
 - c. Comprehensive
 - d. Object-centered model
 - i. Specific, starts around the assumption that "you have something digital" and then doing something with them
 - e. Cyclical nature (things will come up again, be revisited)
3. OAIS
 - a. Specific to preservation - not about creation or access
 - b. It leaves out the production process
4. Producer-Archive Interface Methodology Abstract Standard (PAIMUS)
 - a. Loved this! Great for archivists perspective
 - b. Gives a nice way to incorporate technology
 - i. What do you expect to get?
 - ii. Facilitates negotiation with producers about what is coming in and what will be done with it
 - iii. How do you figure out what to put in the box
 - iv. VALIDATION CRITICAL TO THAT MODEL
 - c. Talks about defining things that haven't been defined in our field - how the handshake happens for digital design records - specific to that, whereas OAIS and others assume that you already have your content
 - i. Like the framework for the conversation... but it having meaning to the person you're having the conversation with
 - ii. Helpful for the archivist to determine how to have the conversation, but that may not translate
 - iii. Nancy wants to scale up PAIMAS to define how the conversation can happen across stakeholder groups
5. Collection/archiving model as shown in the "Collecting, Archiving and Exhibiting Digital Design Data" (Fallon Figure 2.1)
 - a. A derivative of OAIS model specific to domain
 - b. Might help design firms see how the OAIS is relevant - it makes that standard relevant
 - c. Disambiguating digital archives and digital preservation "DAP Stack"
 - d. Detailed action and outputs
 - e. Reframing of DCC model // not really, Larger than the DCC Lifecycle model
 - i. This is a slice of the DCC, exists to: Specifies IT Stack of digital preservation; DP Stack is the human and decision making side of digital preservation; Clarifies Digital Preservation vs. Digital Archives
 - f. Explicit call out of IT stack - technological implementation which is distinct though complementary to the larger workflow
 - g. Disambiguating the roles of all the players and what are their responsibilities

- i. Including what is the human actions and what are the automated actions
- h. Need to have precise conversations with the right language to be most effective.

Group Discussion

After brief presentations introducing each framework, the full group discussed the frameworks noting what worked for their professions and how frameworks interconnected. They then put frameworks into a four step phasing from creation through access. DCC Lifecycle Model: General Overarching View.

What works:

- Record creation through reuse
- Research data framing
- Curation bridge builder across perspectives on data curation
- Starts with idea of digital object - object-centered model
- Non-linear; is cyclical Observations:
- Captures all
- Summary version
- Broad

Fallon's Fig.4. Major Facility Life Cycle Phases:

Phase 1 | Creation

- What works:
 - Iterative
 - Defines what's important
 - ADE focused
 - Good roadmap/simplification
 - Explicitly record creation process
- Observations:
 - Building process, not record creation process
 - Doesn't reflect creation of digital object, not detailed that way (Revit/BIM)
 - Note, look at DuraARC framework
 - Only 1/2 DAP stack, needs preservation piece
 - May not reflect contemporary practice, have phases broken down
 - Knowing who worked on what version/element is not clear given the collaborative creation/editing process
 - Need digital forensics
- Related system-level issues for this phase (i.e. what factors in this phase contribute to the current state of ADE preservation)
 - Contractual requirements
 - Phase return = new iteration [Contract Admin]
 - Divergent software preferences across firms
 - Size of firm matters
 - Client matters
 - Distinct documents at phases
 - Preservation not billable
 - Wide range of tech. skill in most offices
 - Institutional client demand level of description?
 - Incentivizing (institutional clients?)
 - Proliferation of mutine parallel models (concept, documentation, viz, etc.)
 - Metadata generation, automate, build into practice
 - No incentive to real-time curate
 - Easy workflow
 - Easier to save than delete
 - Identifying what's significant stack vs. technology stack
 - Every project is different, the difference between projects is interesting

PAIMAS: Phase 2 | Bridge between Creation and Management / Preparation

- What works:

- For archivists, nice framing of how to use tech, what to expect
- Clear expectations based on roles, helps get what you need
- Defines what's kept
- Observations:
 - Talks about handoff, specific to "the what"
 - Figuring out what to put in the box
 - Derivative of OAIS
 - Sequence of validation
 - Doesn't necessarily translate to what you get in transactions
 - May help community wide
 - Consumer end (CAIMAS) not yet defined
- Related system-level issues for this phase (i.e. what factors in this phase contribute to the current state of ADE preservation)
 - Developing a domain-wide definition
 - Definition of what information should be transferred
 - Appraisal grid = architectural records (not digital)
 - Data dictionaries
 - w/o this, hard to scale, transfer, acquisition decisions
 - Adding to "Pronone" for ADE/ACE file formats
 - Complex formats (archivist may need to know more about the files/technology) to evaluate the transfer
 - Scaling the: expected elements, documenting naming conventions, elements to NOT expect
 - Deeds of gifts (common ADE elements)

DAP Stack : Phase 3 | Archiving & Preservation

- What works:
 - Detailed actions / outputs
 - Reframing of DCC model
 - Explicit callout of IT stack
 - Tech. implementation as discreet
 - Helps organize tech. Vs. human role, spans across departments
 - Content side and programmatic
 - Highlights relationships by human functional areas
 - Outlines steps for making internal case of what to keep
- Observations:
 - Human and digital archive tools (appraisal, accession)
 - Bridges real-time to over-time
 - Slice of DCC model
 - Who is responsible for software dependencies
 - Which metadata?
 - Which paradata?
 - Related system-level issues for this phase (i.e. what factors in this phase contribute to the current state of ADE preservation)
 - No standardized workflow between the two areas (who is responsible for what)
 - MPLP
 - Scale
 - Dissemination objects
 - Access to users
 - Sustainable funding
 - Cost
 - Interface between access and preservation
 - Data movement at scale
 - Analysis paralysis
 - Lack of workflow
 - Metadata standards compliance
 - Appraisal: what to preserve, linked to politics
 - Metadata: would love a standard schema for ARCH
 - Partnership between archivists and digital repository

- Partnerships with architects and project managers
- Managing both archiving and preserving alone (doing both sides of the stack)

Phase 4 | Access and Use

- Selection, Creation
 - What does use/access look like, require
 - Access levels for digital preservation
 - Process/make available on demand (vs. allwhen rec'd)
 - Important to have metadata to define access rules (e.g. donor restrictions)
 - Move in phases of demand > move to next phase
- Related system-level issues for this phase (i.e. what factors in this phase contribute to the current state of ADE preservation)
 - Anticipating user needs 50 years out
 - Who is the user? Scholar? Student? Public? Children?
 - Education/training
 - Will our users know how to use (archivists & users) *
 - Acceptance of gaps
 - Customized software
 - Define audience or format
 - Sets of records vs. special snowflakes
 - Proposal for easier access point
 - Policies for use (publication)
 - Rights/IP
 - Cost of storage
 - Forward migration of tech/formats
 - Proprietary software
 - Available format = creators' intent
 - Don't have critical mass yet to develop CAIMAS model
 - Rules for future
 - Policies for curatorial decisions
 - Selecting: Developing New Collecting policy
 - Access:
 - tools (emulation?) development
 - Expertise on software of origin
 - Need a well-designed system that provides access to content
 - ACCESS, ACCESS, ACCESS
 - Metadata quality for findability
 - Appropriately detailed metadata
 - Linked open data
 - Discoverability : how users find
 - Proposal: levels of access, PDF export to Emulation of original software

OAIS Models & Fallon Fig. 2.1: Collection and Archiving System

- What works: Fallon Fig. 2.1
 - Nice derivative of OAIS
 - Specific to AD domain OAIS
 - Describes process well (except for production)
 - Specific to preservation (not creation or access)
 - Supports other phases
- Related issues and observations
 - Complexity
 - Scalability to size needed
 - Developing new objects and compatibility
 - Who is the future user?
 - How do we central the versioning without proper metadata
 - Models support functional needs of users

- Production phase definitions
- Can this model scale to full OAIS model
- Haphazard metadata
- Systems that are "too" flexible
- Descriptive info can be too loose and may not scale
- OAIS Model drills down to OAIS Model, and OAIS Producer/Curator Handoff

Additional Conversation Notes

Can we combine the PAIMAS and DAP Stack?

What would that look like?

The PAIMAS includes the content creators and the DAP Stack includes everyone else

Inherent order:

DCC all consuming... (JM is this fair? YEP) ;)

DuraARK framework is another model to reference although we aren't discussing that today

We should be asking questions about relevance of these models - or the model that results from our workshop discussions - to contemporary architectural practice (how is work captured, accredited to specific designers and engineers, etc.) - capacity to unravel the process.

Appraisal should consider new forms of records that facilitate new forms of research

No compensation for architects and designers to capture more data in the workflow

Logs would need to be byproducts of the software + firm policies:

- By default something needs to be turned on
- Case has to be made to add that feature to your subscription package for these software
- In ethics questions, PAIMAS is useful because you need to ask if drafts are useful in the context of a specific collection, or not

1. Fallon 2.1.7
 - a. Reflects a business process but not how a model is created > currently there are challenges for content producers that are not represented here
 - b. Problem may be that it is one half of the DAP Stack - it's missing the preservation piece to be locked at as well as the appraisal piece
 - c. How well does this actually reflect contemporary practice
2. PAIMAS - contract between producer and archive
 - a. "RM light"
 - b. Bridge between creation and long term
 - i. Including requisite rights, metadata, etc.
 - c. When things are headed towards the curatorial threshold
 - d. Layering on top of OAIS
 - e. TO BE ADDRESSED: CAIMAS - consumer end ... what is the contract between the future user and the archive
3. DAP Stack - includes dissemination / access
 - a. Still leaves questions around selection and expected use
4. DCC

Looking at resources - limited resources: That prioritizes the needs of the patron

OAIS is devoted to long-term access

Providing access is good but what questions are being asked?

Defining the expectation regarding how things will be used and this is coupled to the skills/user competencies that need to be explicitly articulated and over time.

Proliferation of design styles and approaches - systematizing a creative and iterative process.

Levels of access that can be articulated: software + files + training; Software + files; Files

DCC is good - because it emphasizes the continuum/cyclical nature of the process

PAIMAS is a layer

NEXT STEP - Group articulates where they focus their time on these models - each of the models map on to specific groups

What issues are inherent to your phase that led to a scope of 1-10 for the models earlier?

- Record Creation
- Bridging
- Preservation
- Access/Reference

Does OAIS set underneath all of this?

If we think about what we produce as a group in terms of what will be implemented - we should move away from systems and specific technologies.

ACTION ITEM: Identify common elements between models and that should be the starting point for our roadmap.

Will: This discussion is very closely tied to the metadata challenge - everyone has their own localized standard and everyone wants a unified standard, but because we don't have that, we have to be able to map or hook.

ACCESS GROUP:

Group articulates where they focus their time on these models - each of the models map on to specific groups

What issues are inherent to your phase that led to a scope of 1-10 for the models earlier?

- Developing a domain definition
- Definition of what information should be transformed
- Is there a data dictionary around ADE
 - Appraisal grid for architectural records (not design and engineering)
 - PRONOM
- Validation is an issue for the bridging activity because the same files can be produced by multiple software and there are very few of these software added to PRONOM
 - People are not participating or adding to this - modeling ADE in PRONOM
 - And we need PRONOM to do validation
- How to talk to people about these issues - is closely coupled to the transfer phase

We didn't really get to transition before switching teams

SHIFT - New HYBRID GROUP

Questions:

- Is this about technical issues?
- There isn't an evaluation of the thing in terms of relevance?
 - Yes - the preliminary phase is the negotiation

New challenge - your archivist has to have an understanding of the file formats in order to be more effectively in the preliminary phase

- skills/competency - community engagement around community tools that would bridge the technical competencies

Scale - what about having the discussions in terms of 500,000 files - what is the best way to address that

Search for the archives that are already working on it

CS3DP - is doing a lot of this community consensus

IIIF 3D discussion needs to see that they are part

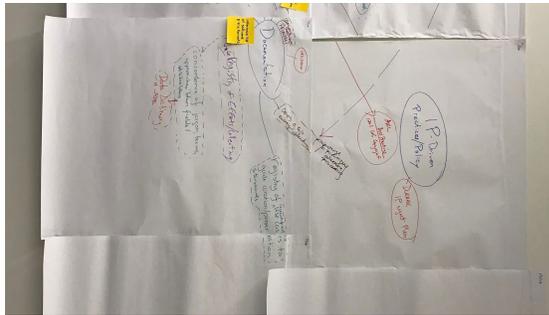
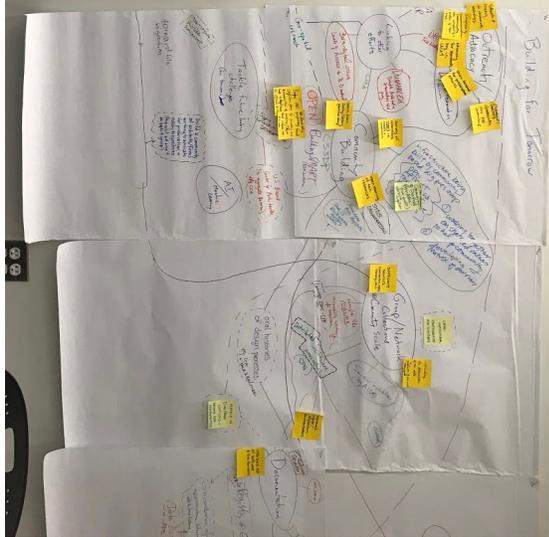
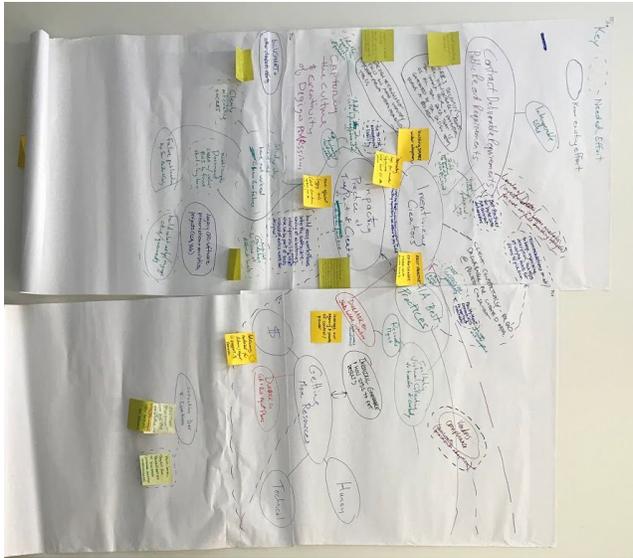
Interpretative decisions (paradata) - formal definition and the transfer are the most affected

SIP is the readme for items that would require significant data about the methodological and theoretical underpinnings (the parameters of a model - the assumptions of the model)

Roadmapping [Creating a Mindmap]

(led by Christina Drummond)

Participants dynamically mapped out known efforts and needed projects / efforts related to DADE record preservation. See photos following.



Photograph of mind map

Ann's observations:

- Discussing challenges in different configurations reveal themes
 - Incentivizing creators

Nance's observations:

- "Building for Tomorrow" - aspirational - we shouldn't be limited by what we can do today.
- We have opportunities to think about tech now helps us get to the next stage - bridging technologies
 - How do we raise attention to that and get together
 - Shared expertise across the community - Data Curation Network staffing model
- Overtime, there are digital files coming out of architecture TRUDY HUSKAMP PETERSON AW YEAH
- Leverage our expertise, stop thinking about our challenges and start looking at opportunities and existing wins
 - Take the human and funding and technological resources and collaboratively solve problems and move forward
- Moving to the next stage of community building - if we want a community based preservation strategy we need to be a little uncomfortable - we don't need to reinvent, we need to evolve existing models
- We have to be able to do the things we say we can do
 - Can't magic money, but leverage human and more flexible indirect costs that allow us build up to big scale
- NDSA - levels of digital preservation (a specific slice of practice)
 - MIT has levels of preservation commitment
- Gap analysis - who has what
 - Create one for the ADE/AEC/dlskjfd community
 - See ourselves as an ecosystem - for collecting for sure
- Power of narrative in preservation strategy
 - The context
 - The relationships
 - Document and preserve the connectivity

Kit:

- DON'T need a new collections policy - not reinventing just looking at it in a new way
- Create definitions and guidelines, these are tools we need, our colleagues need these, and this will help creators too
- Do what you can and imagine future worlds
- Levels - (get on my levels) - complex data there are so many related fields
 - Levels of access
 - Levels of collecting
 - This can be iterative

Roadmapping Categories

- IP Driven Practice/Policy:
 - How Intellectual property limited access
- Predicting/anticipating collections for future research
 - New disciplines (software studies, digital humanities)
 - How to be forward looking - and we can't look to any specific technology in order to think about future use - the disruptive technology now becomes a processing or research tool in the future
 - POINTING OUT THE NEED FOR AN ENVIRONMENTAL SCAN OF COLLECTIONS
 - Software as a research object
- Incentivising Creators (a lot of factors)
 - Determining what it means to be successful to use the right incentives with right parameters.
 - Describe the failures and define the success (with the workflows)
 - E.g. Sam Weiss and Carly at Purdue on Documenting Failure in Digital Preservation
 - Documenting the value to practitioners and firms or to clients
 - AND what were the steps
 - Contract deliverables
 - Levels of detail
 - Recommendations of what to keep
 - Best practices for digital data
 - E.G. AIA
 - More informed owners/clients
 - Design technologist focuses / interoperability tools
 - Post-custodial
 - E.g. Preserving the files in a safe location for another institution (e.g. Rwanda genocide)

- Creating virtual collections (issues of access)
- Not all creators are interested in their records being accessible... should be distinguished
- Post Custodial vs. Vital Records
- Facility management is an important stakeholder (users)
- Impacting practitioners but not burdening them/their workflow
- Get into the classroom and get the designers young to understand and appreciate information management
 - E.g. archeology discipline
 - 3D use case / powerful example
 - Analog comparison: notebooks that feed the work they do.

System Level Roadmap Discussion:

- Organically developing ideas in multiple categories
- Difficult to brainstorm, but reassuring to see that some of the topics are things we've worked on.
- There are most likely going to be more things added to this

Priorities and Wrap-Up

Flushing this out on 4/18 AM

Day 2 / Wednesday, April 18

Review Priorities and Working Group Formation

Ann's opening remarks

We are changing the profession here. Questions to consider: Who should be at the table? Do we have everyone here? Who else is missing? What have we been missing in our work so far?

Christina's comments

Let's capture our pain-points and the types of projects that will alleviate those frustrations

DuraArk Synopsis

Durable Architecture, European Commission funded project over several years, they look at how 3D models be reused, especially for the building lifecycle. Audience included builders, architects, facilities managers, historic preservationists (people want to learn more about this, Kari Smith will share)

Developing Strategic Directions and Projects for 3-5 year timeframe

Participants were asked to regroup in their profession/perspective "lifeboats" to ideate projects and efforts that could specifically address the needs and challenges raised the first day. Ideas were then added onto the full-group effort map. Simultaneously, a small group of system-level thinkers (Ann, Nance, Jessica, Carl...) were invited to look at the map to identify high level strategic directions. Six strategic directions were identified and presented back to the full group. Each participant identified their top three efforts they felt should be addressed in the next 3-5 years to move state of ADE preservation forward. The counts of this vote are listed below.

Strategic Directions

New Name: DADE (Digital Architectural Design Engineering records)

1. Start + Improving coordination across collecting institutions on DADE ****(20)
 - a. Inventory + Benchmark what systems used by major players for design/build (minimum viable project)
 - b. Develop Use-cases/specs for multiple purposes
 - c. User Need Analysis
2. Create campaigns to connect stakeholders (e.g. DADE to DigiPres community) ***(12)
 - a. Make the case of how DADE fits into AD firms
3. Develop/Embrace/Leverage/Integrate standards and relevant existing best practices ****(17)
 - a. Integrate tools that support standards into ADE software
 - b. Other software that supports DADE
 - c. OpenSource
4. Foster Congress/Coalition/Bridge to connect DADE with other preservation communities & consortial efforts ***(17)
5. Bring together/organize DADE "movers & shakers" *(1)
6. Build Capacity business case **(9)
 - a. Human - training, development
 - b. Resources - funding, cross-institutional projects/initiatives

(more * = higher voting)

NB: Strategic sticker voting does lead to prioritizing in the moment.

New Name: DADE (Digital Architectural Design Engineering records)

Defining Efforts and Projects pertaining to Strategic Directions

For the top five emergent themes, participants worked in their profession lifeboat groups to identify efforts and projects that would move things forward and/or address related challenges/needs that fell under that theme. Profession lifeboats floated to each of the strategic directions to contribute needed efforts/projects that their profession could advance to move the direction forward (annotated below). After visiting each station, participants voted for what they felt were the four most important efforts/projects to complete in the next 3-5 years within each thematic area.

1. Start / Improve DADE Coordination across Institutions: Brainstormed Projects and Efforts

- Through aggregation of info out of meetings, conferences, fora, and the presentations, workshops, etc. (TECH) (2)
 - Use data to know which institutions are contributing, have expertise, etc.
- Advocate for organizational/institutional support of publishing / outputs related to DADE (TECH) (3)
- Consider Open Science Framework instance for DADE (TECH) (13)
- Include non-US institutions and partnerships (TECH) (1)
- Identify roles, expertise, space, resources, sponsorship for meetups, working on grants/research (TECH) so that coordination can be successful and offer value
- Compare firms using standards with those that don't and see benefits and pain points (ARCH) (1)
- Leverage faculty who are active practitioners (ARCH) (6)
 - And internships
- Design firm practitioners can tell DADE about evolving new tech and usages (ARCH)
- Expand SAA CAD-BIM Bibliography with efforts / institutions / events (CA) (2)
- Develop use cases (AH) (1)
- Define Content Access from architectural history perspective (AH)
- Microgrants to facilitate coordination (CCB) (8)
- Develop broad user needs from the AH Community (AH) (5)
- Identify Peers and AIA groups to start networking (smaller, larger, similar) (CA) (4)
- Identify/reach out to poster child firm as a case model of process including funding (CA) (1)
- Develop sessions for historians at SAA, ICAM, etc, (AH) (CCB) (1)
 - ARLIS, VRA
 - Architectural Inst. of AM doing this for RDM
- Present on research/initiatives at SAH and ACSA (AH)
- Share case studies at SAH/ACSA (AH)
 - Archivists, digital scholars, etc.
- Connect w/ computer applications in archeology (AH)
- Identify opportunities to interact/learn/contribute to research methods pedagogy (AH)
- Identify smaller arch. Of design schools with collections (CCB) (1)
- Association of Independent Colleges of Art and Design (AICAD)
- Create inventory of projects that use or create digital knowledge production (AH) (CCB) (10)
 - GR directory of institutions / DADE collections
- Statement of importance which defines issues or opportunities in DADE collection (CCB) (13)
 - Power of consensus
 - If this, then do this and this

2. Create campaigns to connect stakeholders: Brainstormed Projects and Efforts

- Concise, simple communication of need, clear, elevator speech, value driven
- Include International Stakeholders (TECH) (1)
- Synthesise the messages to target groups within stakeholders (TECH) (7)
- Identify stakeholders > developers for OSS / vendors for proprietary software, device creators, standards creators, software creators, etc. (TECH) (4)
- Aggregation and distribution of conversations/communications (TECH) (2)
- Appeal to their vanity
- Plant seeds about an individual legacy (AH)
- Create a case statement to frame scope of projects and communicate to high level decision makers (CA) (18)
 - And Mid-level project and BIM managers

- Resources: "Community Toolbox" by Univ. of Kansas; Nexus LAB workshop handouts
 - Agency voice (1)
- Learn from existing partnerships
 - Identify existing similar campaigns (perhaps in other domains) (CCB) (6)
 - //s to research data practices and resources, RDA, CC, DPLA
- Create list of incentives benefits - short and long term (AH) (1)
- Create exhibits to foreground preservation implications to be represented (AH) (5)
- Translate practices/knowledge to ADE (TECH) (CCB) (1)
 - Born-digital guidelines for appraisal (Grid from SAA DRS)
- Create facets/use cases based on ADE firms' practices, researchers, faculty, admin, collecting orgs, practitioners (CCB) (6)
- Microgrants (CLIR, Mellon, Sloan, etc.) to fund pilot DADE archiving by different stakeholders (need clarity) (CCB) (20)
- Getting started - working w/ distributing campaign through large consortia and professional orgs (5)
 - ALA, SCELIC, WRLC, COSA, AIA, VRA, SAA, SAH, AASL, ARLIS, CAA, ICAM, ASLA, APA, ACSA, BOMA, NARA, GSA
- Funding
 - Tool kit for archivists, etc to be "at the ready" for when folks offer \$/time/networking on your behalf
- DADE - AIA conversations - how firm business can benefit from DADE concerns - begin to develop BPs and framework for design firms (ARCH) (2)

3. Develop / Embrace / Leverage / Integrate Standards & Best Practices: Brainstormed Projects and Efforts

- Archivists in dialogue with existing standards ex. Build SMAART / CS3DP (ARCH) (2)
- Gartner-style scorecard (model) evaluating software's preservation capability (ARCH) (CCB) (CA) (11)
 - From preservation side
 - From practitioner side
 - Connect BP+guidelines w/ cost-savings
 - AIA
 - Use + build on Aliza and Tim's grid project (CA)
- Interoperability that also helps firm's business case for efficiently moving between models (ARCH) (5)
 - Being studied by several design technology group
- Best/good practices and guidelines for firms organizing and retention of records that would help firms, be easy (CA emphasis)*, be flexible (CA emphasis)* and enable later transition to collecting repository (archivists and architectural historians can help start this framework) (ARCH) (CA) (AH) (21)
 - Suggestive not prescriptive (CA)
- Engage software vendors so standards / needs can happen automatically during workflow & Open Source Software development (ARCH) (CCB) (7)
- Client contractual deliverables - and make handover piece easier (ARCH)
 - Scalable
 - Facility management & lifecycle (instruments of service)
 - Basis - AIA Contract Docs - Digital Data
 - Treat facility management as a stakeholder group
 - BIM guidelines (CA)
 - National BIM guideline
 - G-SA BIM guideline
- Review / document and identify gaps in content metadata (AH)
- Provide input on use/reuse (i.e. value) (AH)
- Provide best practices to students / training re: software (AH) (9)
- Programs that could improve visual tech literacy among grad students, users, historians (AH) (1)
- Aggregate information (TECH) (1)
 - Standards
 - OSF
 - Organizations that create standards, so there is input / votes / buy-in
- As part of toolkit for institutions, consider conversation starters or ways to convene cross-dept conversations; this would expose DADE to existing standards implemented in different/existing systems supporting other forms of curation. Ex. RDM, other special collections, etc. (CCB)
- Consider developing Application Profiles rather than "new" standards for metadata (TECH) (CCB) (4)
- Clarify good/best practices so that it can inform standards efforts (TECH)
- Best practices for archivists working with B-D collections (CA)
- Inform grant funding agencies and reviewers of the best practices and standards applicable to this sphere (TECH)

- Create read-me / one-page sheet of what to know
- Facets/Stories specific to the value of inc. standards/ good practices into design workflows (CCB) (9)
 - (Example: lessons learned from project efforts that reinvented rather than reused)
 - If we had a shared statement (SEE: suggestions for collaboration across institutions), THEN we could make community recommendations to FUNDERS that projects have to incorporate known standards and good practices > part of evaluation criteria

4. Foster Congress/Coalition/Bridge to Connect DADE with other Preservation and Consortial Communities: Brainstormed Projects and Efforts

- Share Case Studies (AH) (CA) (CCB)(AH)(ARCH) (9)
 - Facets
 - Articulate shared goals beyond preservation (ARCH)
- Aggregation (TECH) (3)
- Promote/record events on topic (CA) (CCB) (3)
 - Digital roundtables
 - Access to content / participation for those not onsite is important (listserv, web) (AH) (2)
- AA Design Roundtable > Connect/Collaborate w/ other tables & AIA (CA) (3)
 - See SAH model below
- Connect with ACSA (AH) (2)
- Expand to vendor / professional tech communities (ARCH) (3)
- Identify DADE Ambassadors to join meta-consortia for DIGIPRES of all types of objects (CCB) (7)
- SAH> creating council to link to practicing architects (CA) (1)
 - Leverage SAH and AIA existing connection (ARCH)
- Define the incentive for participation in council/coalition (TECH) (5)
- VRA> connections > ID other groups working on preserving specific born digital (CA) (CCB) (TECH) (8)
 - ARLIS + AICAD + VRA
- Practicing architects, working internationals may have non-US, local connection into preservation communities (TECH) (1)
 - Include ICAM
- Invitations to DADE practitioners to participate in conversations (CA) (1)
- Institutional internal and external connection/collaboration building (CA)(4)
 - Find allies (1)
 - Add curriculum content (AH) (1)
 - Connect to existing DADE academic programs (i.e. curriculum) (AH) (1)
 - Present topic/issues to creators in your own community (AH)
 - Maintainers looking to engineering code of ethics ex. Lee Vinsel VTech
- Shared statement of what makes DADE special, how it interfaces with other DIGIPRES communities (CCB) (AH) (4)
- Identify entire range of stakeholders and engage - what DADE can learn, how DADE preservation conversation supports stakeholder's own needs and interests (ex. Design firm liability, facility mgr lifecycle management) (ARCH) (CCB) (16)
 - 2nd orgs: BOMA, NCARB (records q. On ARE?), ACSA, ASLA, APA
 - Types of design firms - whole range
 - Clients w/i standards (cont.)
 - Software industry
 - Leverage work of DURAARK
 - Conservation/Historic Preservation (AH)
 - Cultural Heritage Professionals (AH)
 - Historians of Technology (AH)
 - Historians of Engineering (AH)
 - Planners - Community, REgional, urban (AH)
 - Landscape Architects / historians (AH)

6. Build the capacity business case / Making the case to build capacity: Brainstormed Projects and Efforts

- Work with valuation firms to assign value to donations for tax incentive to donors (TECH) (1)
 - Human - training, development plans
 - Resources - funding, cross-institution
- Toolkits and things (CCB)
 - Matrix or Aggregation of DigiPres Options - services and tools (11)
 - Community digital preservation (shared values)

- Digital powrr
 - COPTR
 - Toolkits for prioritization of content (by creators, researchers, technologists, administrators, coll Developers, archivists) (13)
- Directory (18)
 - To compare across institutions - a benchmarking tool for understanding how diff. Types of institutions curate/coll./pres. ADE
 - LPC Directory (AH)
 - Keeper Registry (AH)
 - Case Studies (CA)
 - Facets/use cases - collections as data (AH)
 - LC Symposiums - DADE (CA)
- To get buy-in: DADE collections are digital> so we need capacity to handle (CA)
 - Related to other complex born digital collections
 - Show impact on community: Projects = researcher data collection and user surveys
 - Connects to existing collection surveys
- Identify exiting trainings and toolkits (CA)
- Use DADE case study within existing efforts on complex digital objects (CA)
 - ID existing efforts and offer a tool development and request
- Cost project: Can we determine costs of collection processing for donor conversations? (CA)
- Deposit data from collections in repositories - increase access (AH)
- Solicit/document collections as data projects (AH)
- Building capacity with creators (CA) (ARCH) (2)
 - Connect to their "holding" records process (required) (CA)
 - Create case study to promote
- AIA CEU credits on standards, RM, liability concerns, archives, legacy (including project team personal computer laptops) (ARCH) (6)
- Explore info mgmt costs in creator's firms (within project costs) (ARCH) (1)
- Case studies of ways firms have donated digital mtlis to repositories - are there multiple models? Lessons learned? (ARCH) (4)
- How to reduce liability by disposing of everything vs. preserving a legacy - not necessarily a conflict, what does that look like for firms? (ARCH)
- Develop cost models...clarify (6)
- Develop ROI Calculators (6)
- Develop risk analysis calculators (what happens if we don't do this) e.g. cost of inaction calculator for A/V (6)
- Create legislation to protect records for long term preservation so that archives can take w/o legal liability.

Lunch

Participants were invited to suggest topics for self-organized discussion over lunch.

- Practical guidelines/steps for getting archivists started with a born-digital program
- 3D informatics preservation
- Building financial case for various levels of preservation
- Kari shared great information about DuraArk

Planning Next Steps

Communication

How do we want to stay connected? Is our community a daily/regularly engaged group?

- Lots of communication options: Email; Shared drive; Meeting / virtual meeting; Slack / chat; Trello (something to prioritize and do benchmarking); Google group; Leverage CS3DP listserv
- Place where a working group and strategic information is available
 - Some monthly newsletter/digest of progress on activities, eventually it could be a part of a broader campaign
 - B4T web presence
 - Wiki
 - Basecamp
- Identify a collaborative workspace
 - PM software
 - Slack - and not slack

- Asana
- Monthly or bi-monthly calls/meetings with clear agendas, recorded to report back on the work.
- Volunteers to coordinate communication; Liaisons to other organizations
- Regional gatherings; meetings at big conferences; follow up larger conferences.

Commitments

Participants were asked to state how they can and will take the events of the forum back to their peers. How can you take this back to your peers? (Ideas)

- Survey of user needs? Need partners! (Kate)
- Be a busybody / help (SByers)
- Discuss with local chapter of non-archive professional association
- Start an avant-garde digital preservation journal! (M.Allen)
- Try to change archival practices of student work at my institution (M.Allen)
- Continue to spread the word
- Steer my library towards more responsible treatment of 3D and ARCH data and content (Will)
- Greater outreach and communication with collaborators (Jess Q.)
- Present a lightning talk on our work here at the IT Digital Preservation Symposium next week (KPM)
- SPN training and education could work w/ others in DADE to explore software preservation use-cases for this community (J. Meyerson)
- Write report (AW)
- Write IMLS report (AW)
- Comp. presentations (AW)
- Talk to HL staff (AW)
- Write an article (AW)
- Convene steering committee (AW)
- Reach out to people I have met here for conversation /brainstorming on how DPN can help (MaryM)
- Process CAD files, Build Internal Collaborations w/ Born digital stakeholders (Kit)
- Start invest. How to build born-digital design appraisal grid (Emily)
- Liase w/ arch. Department about issues concerning software and pres. (Emily)
- Add extent of born digital media to finding aids (Emily)
- Discuss what our office can do better to facilitate preservation/access to our documents (Sylvia)
- Discuss changes to close-out process/documentation (Sylvia)
- Participate in SAA-DR sections priority projects, answer a call to arms (Beth Dodd)
- Provide BFT grant info to library, go back to work and see how I can connect these efforts to my own institutional priorities so I can petition for institutional support (Beth Dodd)
- Provide BFT grant info to library directors and ADS & colleges and iSchool; report out to school of arch colleagues (Beth Dodd)
- Investigate our School of Arch. prof. Practical course curriculum and meet with faculty (Beth Dodd)
- Explore the possibility of a test case for B-D materials at Avery, possibly with the architecture school (Pamela)
- Connect with the architecture school to understand what students are learning around the creation, organization and preservation of their bd files (Pamela)
- Liaise/link up with similar collection repositories to explore opportunities for exchange of success/failures w/ b-d collections (Pamela)
- Report back to internal stakeholders direct team at Avery and Columbia Born-Digital Committee (Pamela)
- Jump the fence (W.Whitaker)
- Actively engage w/ digital collections" backlog" & repub on results, experiences to colleagues (W.Whitaker)
- interface with donors (LA's grants) and their collaborators (W.Whitaker)
- Meet with dig. Historians and archaeologists to determine scope of problem @ CFW / W+M (Jeff K.)
- Report to key SAH staff and board members (Jeff K.)
- Continue to refine requirements for preservation framework for complex DADE (esp. In terms of FT support) (S. Byas)
- Build on the many shared perspectives I've gained here (S. Byas)
- Report back at department meeting, to dept. Chair, dean, and university archivist (Christy D.)
- Liaison to AIA - American Institute of Architects (Nancy H.)
- Work with group o the "good practice and guidelines for creators project" then can begin to help bring creators into the project using AIA infrastructure (Nancy H.)
- Ask my colleagues on AIA staff what existing efforts at AIA might be pertinent to the DADE discussion (Nancy H.)
- Help populate OSF for DADE (Nance M.)
- Share updates with colleagues in digital preservation community (Nancy M.)
- Advocate for DADE-related conference posters, papers, workshops, training when I am involved as reviewer or program chair (Kari)

- Find out what training is being offered as part of MIT DUSP and A&A curriculum that relates to DADE (Kari S.)
- Share out to ASpace, Archivematica, Bit Curator, DURAAARK colleagues to raise awareness of the DADE efforts and challenges (Kari S.)
- Program 4 Born-digital Archives @ MIT, put this into format/context that we need to build capacity around (Kari S.)
- Report on this initiative to my administration / colleagues at my institution (KPM)
- Explore data carpentry for DADE with collaborators at my institution (KPM)
- Share my dissertation on documenting architectural practice w/ the community (KPM)
- Liaise with ARCH dept. Re: archiving program for born-digital (Mark P.)
- Investigate global digital Commons for B-D Arch. content (Mark P.)
- Liaise w/ university archives re: strategy for born digital (Mark P)
- Investigate qualifications for AIA CEU course development (AL)
- Email reflection of discussion to those who couldn't make it (AL)
- Include in IS&T presentation (AL)
- Incorporate some ?s posed here into SAA course (AL)
- Outreach to architecture faculty (JQ)
- Write article for JAE (M.Allen)
- Write article for JSAH (M.Allen)
- Will be talking to CLIR 3D/VR Peers to ensure issues raised here are acknowledged in our report (VAI)
- Want to discuss the intersection of DADE Pres. practices w/ archaeologist colleagues @ the other AIA (VAI)
- Share info w/ CS3DP working group (Lisa w/ Ann, Will)
- Have meeting with Getty colleagues to share info (Lisa)
- Share info w/ UCLA research data task force (Lisa)
- Connect this group to the 3D data discussion network (Will)
- Report to my archivists (Will)
- Recap w/ CS3DP folks (Will)
- Define how B4T fits w/i the chain of 3D data discussions (Will)
- Report to my arch. School librarian (Will)
- Present to my Lib Devs (Will)
- Inform/report to the research project I am a part of (B. Savage)
- Inform/report to my colleagues in Norway and the ICANN // European Network (B. Savage)
- Wait for written report and distribute (Carl)
- Meet with / Brief Dean of Architecture College (Carl)
- Bring wikidata code meta and other software GP and activity to DADE (J. Meyerson)
- Alt. consortial models - Pony more DADE to maintainers (Carl) network > closely coupled to research and curriculum infrastructure facets (J. Meyerson)
- Bring community cultivation tools, gov. Models, open curriculum, from Educopia to DADE (J. Meyerson)
- Take this to SPN and SPN affiliated projects (FCoP, EaaS) through use cases and other work , Tweet/ include in SPN newsletter (J. Meyerson)
- Help tackle synthesis of effort map (J. Meyerson)

Closing

Group Discussion

- LID for DADE (leverage/integrate/develop standards for Digital ADE)
- B4T - summary will go to steering committee who will meet in May and they will articulate the roadmap that will result in working groups to take certain actions forward. A report will be written and disseminated. Writing articles and presenting on this topic in broader contexts and to broader audiences.
- Anything completely missed:
 - Be fully inclusive of design disciplines
 - Includes design research
 - Includes cultural aspects of discipline / provenance and context
 - Careful not to problematize this to the point of inaction
 - Stop the Silos! Embrace Collaboration!
 - Need to do more leveraging the overlaps of other communities who have gotten so far
 - How do we learn from the lessons learned?
 - Improve access and better communication to share these lessons and interests. E.g. SPN working groups / volunteer collaboration where documentation happens and then need action driver followed by an evaluation component to even determine success.
 - Take an interdisciplinary approach
 - Specifying the record type

- Complex digital objects specifically - helps to keep the boundaries
 - But these records are in a hybrid collection and that element needs to keep this involved.
 - Think about our own agency around making the decisions we are making
 - There are implications to the choices we make and how we decide what is important.
 - The gentrification warning, we can erase the past if we're not careful
 - Once you express your problem statement it's much easier to communicate your issues and see your peers/potential partners
 - E.g. Kari's Integrations story around ArchivesSpace- what are we trying to do, defining the borders and boundaries of what is and is not included.
- How are we going to share with our peers?/colleagues/offices

Takeaways

- Appreciation of the vast challenges DADE presents
- We're not alone, even big name institutions share the same struggles
- Need to figure out how to get everyone in the room
- Warm and fuzzy feeling knowing that a lot of good folks are working on this problem
- Need to get Architectural Historians excited and involved in this effort
- Different competencies and perspectives of the stakeholders in the room
- Cautious optimism for our efforts, has seen some failed/balked initiatives
 - Look at library service, open source, institutional communities
 - Need to pause and reflect previous efforts - their success and hiccups
- Knows who is liable and responsible for moving these issues forward.
- Wealth of resources that we do have available as a group (vs. feeling resourceless individually)
- Being excited by the level of engagement and understanding of the issues that I care about by this entire community. And our interest in digital.
 - Yay PAIMUS!
 - This is a community of practice
- This is a powerful group of people, that is so much more powerful as a group than individually
 - The meeting was well organized and laid out to help us have such productive takeaways
 - What are the gaps for DPN to fill?
- Heartening to be in a room of so many different stakeholders and hear all the issues in one room.
- Emily wants to work with Aliza on the Appraisal Grid!
- Better sense of who is in her lifeboat and what kind of tools we need to get back to "solid land"
- Missing stakeholder - campus facilities
- So happy to not feel alone and adrift - everyone is wrestling with this.
- More optimistic and clearer understanding of who the stakeholders are
- Feel like I have people I can talk to to work out next steps, creating/finding a network
- We need to talk more about the scalability of our processes and discuss our failures
- A sense of relief - after the last 10-15 years of feeling like it was never going to be a solved problem - but now other solutions besides migration seem possible.
- Strong sense of community and connection, and deeper understanding of the issues
- Well put together session, spaghetti on the wall is hopeful and exciting - the roadmap effort allowed us describe and connect the issues and initiatives that exist and need to be created.
- Can really start picturing what the collaborative roundtable for DADE can look like.
- We have an amazing community here -and many more important people not in the room today.

Action

- (Kate Neptune) Create a survey of our users needs - SAH Bill W. seemed interested in exploring this!

Resources mentioned during the Forum

- Tim Walsh - a digital preservation librarian, documented an independent study project called "Access to Born-Digital Architectural Records" on his website. The site captures a bibliography of DADE archiving and online training. <https://www.bitarchivist.net/projects/independentstudy/>
- Community Standards for 3-D preservation CS3DP presented by Will Rourk <http://gis.wustl.edu/dgs/cs3dp/>
- CLIR 3-D/VR project <http://vrpreservation.oucreate.com/Colloquium/> presented by Veronica-Gaia A Ikeshoji-Orlati

- DPC Technology Watch: Preserving Computer-Aided Design (CAD) by Alex Ball 2013
<https://www.dpconline.org/docs/technology-watch-reports/896-dpctw13-02-pdf/file>
- DuraArk: <http://duraark.eu/project-flyer/>
- SAA DRS resources (as a bibliography from 2000, in English lang):
<https://www2.archivists.org/groups/design-records-section/resources-appraisers-books-articles-conference-proceedings-and-cataloging-tools>
- SAA CAD/BIM Taskforce: <https://www2.archivists.org/groups/design-records-section/cadbim-taskforce>

Appendix 6 - Strategic Directions and Priorities as refined by the Steering Committee

(As of May 2018 - These remain a work in progress.)

1. (July 2018 - December 2018) Representing/Synthesizing the Current State of the Field
 - a. Create an Effort Map as an inventory of allied digital curation efforts that may inform DADE good practice (inclusive of other domains). Conduct an analysis of the gaps.
 - b. Compile and synthesize collection development policies from collecting institutions. Understand how different types of institutions curate, collect, and preserve DADE.
2. (July 2018 - June 2019) Start and Improve Coordination across Institutions on DADE and Connect to Stakeholders
 - a. (July 2018 - December, 2018) Create a Statement of Importance which defines issues and opportunities in developing DADE collections that:
 - i. Articulates the value of participation, frames the scope of activities, and purpose for the DADE community
 - ii. Develops targeted messages to raise awareness and engage priority stakeholder groups
 - iii. Cross-references with other professional organizations to include their language in the statement - identify points of alignment
 - iv. Analyzes the mission statement/professional statements for stakeholder groups and aligning that to the mission/statement of importance
 - b. (July 2018 - September, 2018) Create a web presence for DADE
 - i. Develop a place for definitions of terms used in Building for Tomorrow
 - c. (July 2018 - February 2019) Develop a Community Engagement Plan
 - i. (July 2018 - October 2018) Develop a stakeholder research toolkit
 - ii. (October 2018 - December 2018) Develop a clear ask and means of engagement with each major stakeholder groups, i.e. what DADE wants to know, and what we ask of the group.
 - iii. (October 2018 - December 2018) Launch DADE Ambassador Program
3. (July 2018 - June 2019) DADE Coalition Governance & Sustainability
 - a. (July 2018 - August 2018) Articulate how the DADE effort is structured [Ratify a Coalition Structure Document].
 - b. (August 2018 - December 2018) Ask for formal commitments from collecting institutions, including: staff percent time dedicated to the effort and use of names and logos of orgs participating on the website.
 - c. (August 2018 - November 2018) Researching/identifying grant and other sources of funding.
 - d. (November 2018 - April 2019) Determine what the discrete fundable projects are for the grantmakers selected/identified & applying for funding
 - i. Ex. Developing guidelines for standards and handoffs
 - ii. Ex. Convening representatives from different communities - broadening the circle
 - iii. Ex. Microgrants for ambassador program
 - iv. Ex. Microgrant program (funded by CLIR, Mellon, Sloan, etc.) to fund multi-stakeholder (i.e. archivist and creator/vendor/standards organization) teams piloting DADE archiving among a cohort of orgs
4. Improve the DADE community's ability and capacity to preserve DADE records
 - a. Develop a list of considerations/questions to aid in the prioritization and appraisal of content by creators, collection developers and archivists
 - b. Develop Good Practices for hand-offs between/from DADE Creators and DADE preservationists/curators/archivists
 - c. Piloting DADE archiving among a cohort of orgs
 - d. Develop Levels of Curation and Maturity Models for Preserving DADE practices (for everybody)
 - e. Develop & implement professional development programming around DADE
 - i. Develop inventory of existing training opportunities
 - ii. Explore opportunities to incorporate DADE training into existing curriculum and professional development programs
 - iii. Software and workflow good practices for students / professional development training
 - f. Services

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