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Foundations for a Successful Digital Preservation Program: Discussions from *Digital Preservation in State Government: Best Practices Exchange 2006*

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Foundations for a Successful Digital Preservation Program: Discussions from *Digital Preservation in State Government: Best Practices Exchange 2006*

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Introduction

In March of 2006, the State Library of North Carolina hosted *Digital Preservation in State Government: Best Practices Exchange 2006*. [1] This rich two-day forum built upon the efforts of the [The National Digital Information Infrastructure and Preservation Program](#) (NDIIPP) by facilitating communication between librarians, archivists, and other information professionals. Over one hundred participants from thirty states, federal agencies, and private industry attended the *Exchange*, allowing for open communication and idea sharing between traditionally autonomous institutions.

The Best Practices Exchange was made up of two facilitated large-group sessions (an opening session and a closing wrap-up) and thirty small-group exchange sessions that focused on one of nine topics. Multiple sessions were conducted simultaneously throughout the two-day event, allowing for more intimate “round table” meetings where all attendees could feel comfortable participating. Designated contributors gave informal presentations where they shared their experiences with managing digital information. These presentations inspired questions and discussions among the other attendees, allowing for a far more participatory experience than a typical conference.

Each exchange session focused on one of nine aspects of digital preservation: identification, selection, and appraisal of digital assets; repository systems; collection of digital assets; authentication; resources and workflows; access; metadata; preservation; and organization. Staff from the State Library of North Carolina or the North Carolina State Archives facilitated and recorded each exchange session. Additionally, visual journalist Eileen Clegg graphically represented the major themes and ideas generated throughout the *Best Practices Exchange* on large wall murals.



Figure 1. These images from the murals of visual journalist, Eileen Clegg illustrate some overarching ideas discussed at the *Best Practices Exchange*.

Examining the recordings and wall murals from the *Best Practices Exchange* reveals a common message that runs throughout all the sessions. Participants stressed again and again that a successful digital preservation program requires a strong foundation. During discussions, one participant compared the digital environment to a desert with constantly shifting sands. A strong foundation would allow the digital preservation program to resist the shifting sands and remain stable in a highly dynamic environment.

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Support and Buy-in from Stakeholders

Nearly all attendees of the *Best Practices Exchange* agreed that the first step in establishing a successful digital preservation program is gaining support and buy-in from stakeholders including the state legislature, internal management, internal IT staff, content creators, vendors, and end-users. Participants noted that the two most important factors for gaining support are legislative mandates and education.

Throughout all the small-group exchange sessions, attendees emphasized the importance of legislative directives mandating the maintenance and preservation of digital assets. A legislative mandate serves several critical functions. First of all, it has significant influence when garnering support and buy-in from both internal and external stakeholders. Moreover, it provides a tool to enforce compliance among uncooperative stakeholders. Finally, mandating digital preservation paves the way for the establishment of sustainable funding. For many of the attendees, a legislative mandate and sustainable funding were the two key ingredients for a successful digital preservation program.

Even so, a legislative mandate does not guarantee stakeholder cooperation. Education is another way that digital practitioners can gain buy-in from internal and external stakeholders. Gaining buy-in from content creators through education allows for better and more efficient collection development, as well as a greater likelihood of following the legislative mandate. Meanwhile, educating vendors and product developers helps in the creation and maintenance of customized systems. Finally, educating end-users, such as depository libraries, ensures that user needs and expectations are being met. Several *Exchange* attendees described outreach efforts with state agencies that included advocating the importance of digital preservation, reminding agencies of appropriate legislative mandates (if any), and teaching agencies about methods of digital publication/record submission. As one participant noted, "it is critical that everyone who touches state government information

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Education efforts are also needed within the libraries and archives to gain buy-in from management and IT staff. Gaining management support is critical because it allows institutions to unite in their commitment to preserve digital information. It is equally important to gain buy-in from internal IT staff who possess a level of technical expertise not typically held by librarians, archivists, or records managers. Many participants noted that their internal stakeholders were reluctant to support digital preservation because of the associated costs. In fact, one participant described how his management viewed digital efforts as a “black hole sucking in endless amounts of money.” To combat this misperception, the participant educated his management staff on the cost of *not* preserving digital information. He described a doomsday scenario in which the state’s data structures were to collapse. Without preservation back-ups, the entire data structure would have to be rebuilt manually, and that would end up costing far more money than ongoing digital preservation and backup. This cost/benefits analysis ultimately led to management support and buy-in.

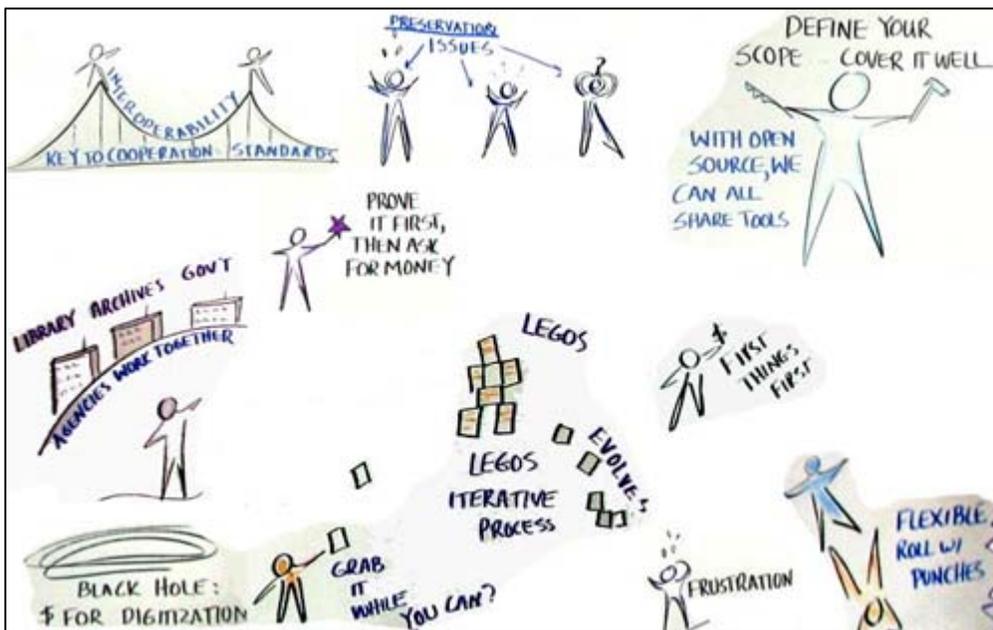


Figure 2. These images from the murals of Eileen Clegg illustrate the many aspects of gaining support and buy-in from stakeholders.

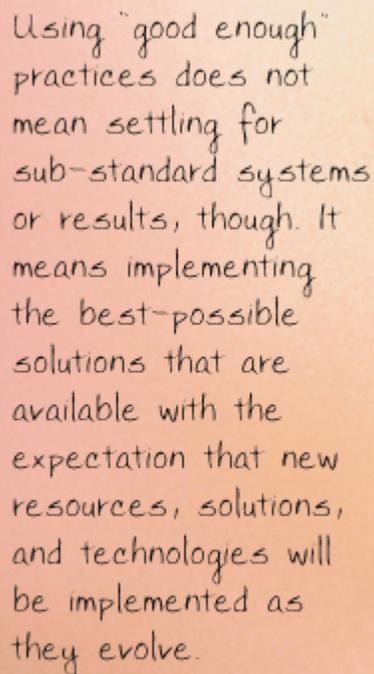
“Good Enough” Practices Implemented Now

By the end of the *Best Practices Exchange*, it was abundantly clear that there were no “best practices” for digital preservation. Instead there were merely “good enough” solutions that were being implemented until something better and more effective was discovered. Several participants stressed the importance of “good enough” practices, insisting that practitioners must work with the tools available to them in order to manage and preserve digital information to the best of their ability. Using “good enough” practices does not mean settling for sub-standard systems or results, though. It means implementing the best-possible solutions that are available with the expectation that new resources, solutions, and technologies will be implemented as they evolve. Moreover, “good enough” practices must be flexible, modular, and interoperable among technical and organizational infrastructures.

Flexibility is a critical component of any digital preservation program. Returning to the analogy of the shifting sands in the “digital desert”, it is important that a practice be flexible enough to avoid being

buried under the constantly changing sands. Similarly, any “good enough” practices must be scalable so they are capable of growing and evolving to meet future demands of usage and technology.

Participants agreed that “good enough” practices must be modular with various components that can work together or independently. As technologies change and evolve, certain components can be changed or upgraded without requiring an overhaul of the entire system. One participant compared an effective preservation program to a set of *Lego* building bricks: each brick is a unique practice that can be attached to others, changed, and/or removed to suit the current technologies and user needs.



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Finally, participants stressed the importance of devising interoperable solutions, systems, and standards to allow for easier collaborations and joint projects in the future. Interoperability is critical to make information readily available and accessible across institutions. Interoperability is most successful when built into standards, solutions, and systems early on in the planning process. One participant noted that during the development of a digital preservation program, it is necessary to think globally when acting locally.

But why try to tackle digital preservation with “good enough” solutions? Why not wait for the perfect solution to come along? All contributors agreed that waiting for the perfect solution was neither feasible nor desirable. The digital history of government agencies from the 1990s is gone forever and more digital information is disappearing every day. Waiting for “the perfect solution” will only result in the loss of more digital information. One practitioner noted

that perfect solutions only exist in a perfect world, so practitioners must use what is available now. In other words: don’t let the perfect prevent the possible.

Collaboration and Partnerships

Digital management and preservation require more resources than any single institution can sustain. As such, successful digital preservation programs need to include partnerships within and across institutions. *Exchange* attendees described collaboration by using adjectives such as “essential,” “key,” and “critical.” Collaboration allows institutions to share responsibilities, resources and, most importantly, results.

Digital preservation programs are most effective when they are built with partnerships in mind. Using interoperable systems and solutions will greatly enhance the likelihood of collaborations with stakeholders such as content creators, state agencies, depository libraries, vendors, and other institutions. Partnerships may be short-term, only lasting the duration of a specific project, or may be indefinite depending on the overall goal of the collaboration. Either way, all collaborations should be clearly documented with well-defined roles, expectations, and results. Maintaining this documentation will decrease the likelihood of future problems or misunderstandings cropping up.

Inevitably, though, disagreements will occur between partnered institutions. Participants listed the most likely causes of disagreements as: confusion about the role of the partnered institutions; misunderstandings in terminology; systems incompatibilities; different standards; and a lack of social and technological interoperability. Fortunately, the benefits of collaboration far outweigh these

difficulties. Collaborations offer fresh perspectives and ideas that enable digital practitioners to think outside of the political and cultural mindsets of their institutions. These fresh perspectives lead to richer solutions and better outcomes.

But how does one go about identifying potential collaborators? Attending national meetings (such as the *Best Practices Exchange*) and workshops (such as Cornell's [Digital Preservation Management Workshop](#)) is one of the most effective methods for building partnerships and fostering collaborations. Meetings and workshops give practitioners the opportunity to learn about new projects, programs, systems, and solutions while identifying institutions with common goals and interests. Indeed, practitioners noted that frequent meetings and workshops help in the establishment of a "community of practice."

One participant characterized a "community of practice" as a flock of birds. Each bird may ultimately have a different end destination, but since they are flying in the same general direction, it is more efficient to fly together as a flock. Like a flock of birds, working together as a community of practice allows for shared knowledge and resources, a more efficient route, and a faster arrival time. But a community of practice goes beyond attending the occasional meeting or workshop. It must be a continued effort to work together with other institutions to share knowledge and ideas. Adam Jansen of the Washington State Archives believes this is best accomplished through the use of a robust website. During the *Exchange*, he debuted his idea for a *Digital Preservation Network SharePoint* [2] site where practitioners can share information about their projects, learn from other institutions, and identify potential collaborators for the future.

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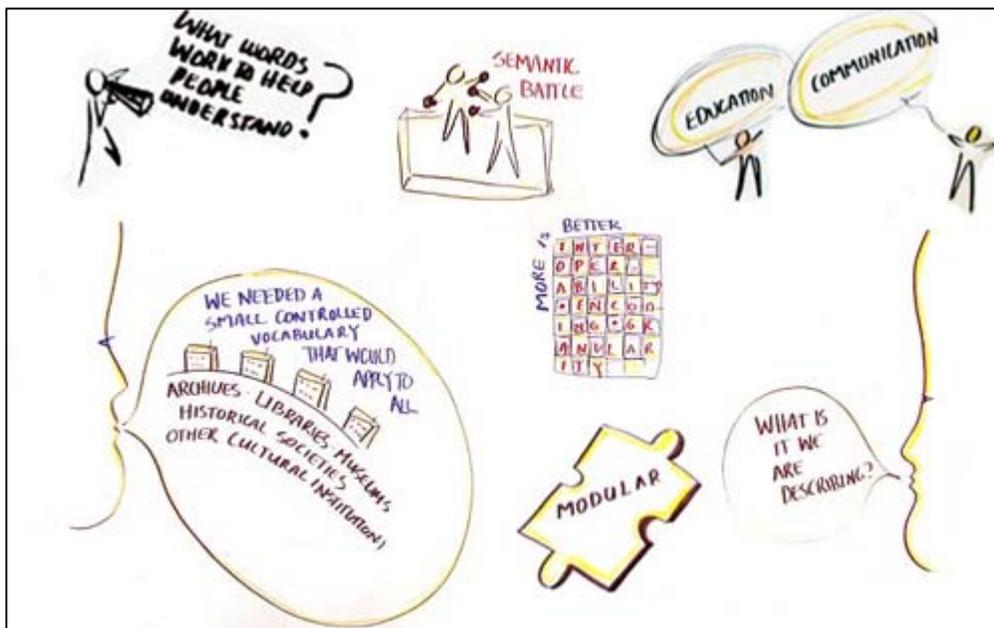
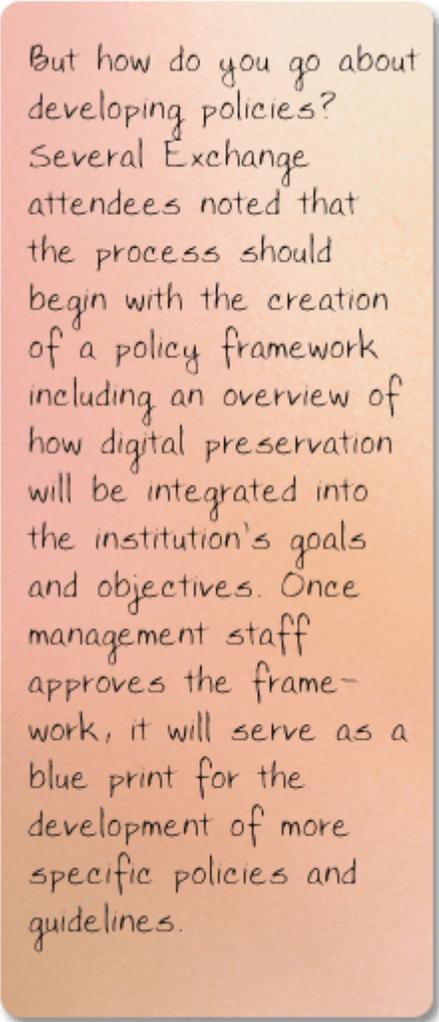


Figure 3. These images from the murals of Eileen Clegg illustrate the many facets of collaboration.

Establishing Policies, Standards, and Procedures

Documenting policies, standards, and procedures is the fourth and final element for a strong foundation in a digital preservation program. Participants felt that policies should clearly document the value of digital preservation within the institution while addressing born-digital, digitized, and analog formats. A well-written policy should serve as historical proof of an institution's commitment to digital preservation now and long into the future. Moreover, the development of policies, standards, and procedures should be done in conjunction with the other three elements of the foundation of a digital preservation program. Documentation should be developed collaboratively with stakeholder buy-in to ensure support while using the "good enough" practices currently available.



But how do you go about developing policies? Several Exchange attendees noted that the process should begin with the creation of a policy framework including an overview of how digital preservation will be integrated into the institution's goals and objectives. Once management staff approves the framework, it will serve as a blue print for the development of more specific policies and guidelines.

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After policies are developed and implemented, it is important to address standards. All aspects of digital management and preservation are affected by standards including metadata schema, file formats, submission methods, and copyright issues. It is important for an institution to carefully research all options before establishing standards. However, once standards and best practices are determined, it is essential to document them in a clear and detailed manner. These standards will be distributed to stakeholders outside the institution, so it is important to define all terminology to avoid semantic misunderstandings.

Finally, it is important to plan and document procedures that describe each process related to the management and preservation of digital information. These processes should be simple yet flexible, so that there is a diminished learning curve and minimal impact on staff and resources. Digital practitioners should consider adapting current practices used for analog material to fit with digital formats as an alternative to "reinventing the wheel." However, if current practices do not fit with the needs of the institution and its stakeholders,

digital practitioners should be willing to look beyond current practices in order to develop the best procedures possible. Naturally, developing and planning procedures takes time. Not all institutions have this luxury, so they may need to devise quick and dirty procedures for immediate use until they can afford the time and resources to plan more efficient processes.

Once policies, standards, and procedures are established for all aspects of digital management, it is critical to share these documents with partners, as well as internal and external stakeholders. Disseminating this information allows for greater buy-in, support, and compliance.

Conclusion

The *Best Practices Exchange 2006* offered attendees a truly participatory environment to share knowledge, ideas, project updates, solutions, and lessons learned in the pursuit of digital preservation. The *Exchange* emphasized the concept of the “community of practice” and the need to communicate and collaborate across institutions for better results. This sense of community was showcased throughout the *Exchange* when attendees described the requirements of a successful digital preservation program. Regardless of their level of knowledge, their experience, or their institution, they all voiced a similar opinion: a strong foundation is necessary for a strong digital preservation program.

This consensus demonstrates that digital practitioners have only just begun to tackle the monumental problem that is digital preservation. Members of this community of practice recognize that they are the architects responsible for building the future of digital preservation, and they understand the importance of laying a stable groundwork for long-lasting results.

The success of the *Best Practices Exchange* has prompted several institutions to ask about hosting the *Exchange* in the future. This interest bodes well for digital practitioners, suggesting that the *Best Practices Exchange* will become an annual function and that the community of practice will continue to grow and evolve as they jointly seek solutions to the dilemmas of digital preservation.

Notes:

[1] To learn more about the *Best Practices Exchange 2006*, please visit the website: <http://statelibrary.dcr.state.nc.us/digidocs/bestpractices>.

[2] The *Digital Preservation Network SharePoint* site is due to debut by the end of June and will be located at the URL: <http://www.preservationnetwork.org>.