Chapter 1

Introduction

A digital preservation program is an essential piece of your organization's total archives and preservation department. Whether your institution is a museum, a library, an archives, or even a corporation, every organization will eventually need a short-to-medium-term digital preservation program for no other reason than legal compliance. This is because many forms of digital information have no viable analog surrogate. Long-term digital preservation is the only way to maintain existing and future digital materials that organizations have invested time, money, and personnel resources in creating. Many cultural heritage materials will not exist as anything other than digital objects in the future. For all of these reasons, sustained digital preservation efforts are and will be required.

So, what is digital preservation? Digital preservation is an interlocking system of policies, workflows, technical solutions, and *good enough* efforts meant to keep digital objects authentic and usable in the long term. Digital objects are composed of bitstreams, sequences of ones and zeroes, which require specific software and hardware components to remain accessible to users. The digital objects you preserve could be born digital (those materials with no original paper counterpart) or digitized copies of analog originals. Digital material can be composed of many smaller parts that work together to form a whole. An example is the audio, moving image, and caption files that make up an accessible film. It is the goal of a digital preservation program to maintain and provide access to authentic copies of digital objects, which does not always mean that a user will experience the digital object as it was when it was created. Your organization can say that it has preserved an authentic digital object when the content, context, appearance, structure, and behavior of the digital object have been maintained even through software and hardware changes.[1]

There is no one perfect solution for creating a digital preservation program; instead, it is making an ever-evolving effort to keep up with your organization's current needs and continually planning for future circumstances. Unlike their analog counterparts, digital objects need constant monitoring and intervention to remain usable and authentic. Therefore, digital preservation program development is an iterative cycle of assessment, policy development and refinement, implementation, and maintenance. This can make digital preservation seem intimidating to those new to the practice. This intimidation and the overwhelming amount of information available on the subject of digital preservation can cause decision paralysis about where to start. This paralysis is what causes the most damage to digital objects. Doing nothing is guaranteed to cause your fragile digital objects to decay. The damage may be reversible, or it may not. The most important part of digital preservation is doing *something*. What that *something* is will depend upon the specific needs and abilities of your organization.

This leads me to my most important point about digital preservation programs. At their core, they are an exercise in risk management. You will build your entire program around what your organization determines is acceptable risk to the authenticity and usability of the digital objects in your care. The less risk you believe is acceptable, the more robust your program will be and the more resources your organization will need to assign to the program. The more risk your organization is willing to accept, the less comprehensive your program will be and the fewer resources your organization will assign to the program. It is up to you to advocate for the risk level you believe will provide authentic and usable digital objects to your users without exceeding the levels of resources assigned to your program.

Digital preservation programs require sustainable investment of financial and personnel resources. Some organizations have successfully converted short-term projects into sustained digital preservation programs. It has more often been the case that short-term projects lead to large quantities of digitized objects or specialized tools that stagnate and slowly move toward obsolescence. Before you create a large

corpus of digitized materials or accept a donation with terabytes of data into your archive, advocate for the resources to set up and maintain a digital preservation program. The initial assessment process can provide you with the material to create a business case to support the continuation of digital preservation program development efforts. As Nancy McGovern emphasizes, digital preservation programs are three-legged stools that depend upon organizational infrastructure, technological infrastructure, and a resource framework.[2] Without one of these pieces, the stool cannot stand, and thus the program will not be viable. It can be surprising, once an assessment is started, to find out how many of the pieces are already in place, especially on the technology leg.

In an effort to demystify digital preservation and start your organization on the path to a viable program, I discuss in this report reliable methods, tools, and policies developed by the digital preservation community for use by digital preservation practitioners when building and maintaining their digital preservation programs. While I have written this report with new practitioners in mind, experienced practitioners may find nuggets of knowledge in the following chapters that may help them to revamp their existing systems. I deliberately chose to focus the report on technology-agnostic practices any organization can use to develop a program that fits its resources. That being said, I also provide practical strategies and tools your organization may be able to implement when assessing and implementing your digital preservation program. The tools and workflows I present in this report have been developed and maintained through a collaborative effort of the entire digital preservation community across the world, so I feel confident in their longevity and usability.

In chapter 2 of this report, I address the standards and best practices that digital preservation practitioners use to develop and maintain their programs. This is followed by chapter 3, which focuses on the assessments that you should complete before developing your digital preservation program and when your organization goes through major changes that impact your digital preservation program. The assessment chapter includes sample assessment tools and examples of how existing audit standards can be used in predevelopment decision-making efforts. Chapter 4 is about policy development. The creation and maintenance of policies is an important way to reach out to your internal and external stakeholders and collaborators to inform them about why digital preservation is important and necessary. Policy development is also a way to advocate for the resources your digital preservation program needs. Your assessments and policy documents will determine how you implement your digital preservation program. To help you leverage your assessment and policy efforts, chapter 5, on implementation, discusses a variety of workflows for the various stages of the digital preservation life cycle. The implementation chapter also covers how to maintain your digital preservation program through technological and administrative change. As you will see by the end of this report, digital preservation does not end; it only continues on in a different form into the future.

Notes

1. Thomas C. Wilson, "Rethinking Digital Preservation: Definitions, Models, and Requirements," *Digital Library Perspectives* 33, no. 2 (March 10, 2017): 128–36, https://doi.org/10.1108/DLP-08-2016-0029.
2. Nancy McGovern, Digital Preservation Management: Implementing Short-Term Strategies for Long-Term Problems website, accessed June 5, 2019, https://dpworkshop.org.