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Review of Digital Preservation Essentials

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Review of *Digital Preservation Essentials*

By Christopher J. Prom, ed. Chicago: Society of American Archivists, 2016. 125 pp. Softcover. \$29.99. ISBN 978-1-931666-95-4

As a trained moving image archivist who only moved to the world of digital preservation a few years ago, I found *Digital Preservation Essentials* interesting, useful, and very much needed. It speaks to the difficulties that two different yet interdependent fields can experience when they don't have a common language and context to communicate in. Luckily, this text helps bridge that gap and I would definitely hope that archivists will read it, regardless of whether or not their institution already has a digital preservation program in place.

Digital Preservation Essentials contains two modules that serve as parts 56 and 57 of the ongoing Society of American Archivists series, Trends in Archives Practice. The introduction, by University of Illinois at Urbana-Champaign preservation librarian, Kyle R. Rimkus, is spot on. In a few short pages, Rimkus articulates many of the concerns surrounding the challenges facing the long term preservation of data in the digital age, especially as that data pertains to the archival field. Right away, he states that the challenge of digital preservation has “provoked its share of anxiety in the archives field, with its established traditions for managing paper documents and records”, and goes on to point out that this anxiety has not been “assuaged by practitioners of digital preservation, who heavily pepper conversation with references to SIPs, AIPs, and DIPs, OAIS reference models and TDRs” (p. 2). These couple sentences get straight to the point of why a text like *Digital Preservation Essentials* is so badly needed within the archives world.

The authors of the two modules are Erin O' Meara, head of the Office of Digital Innovation and Stewardship at the University of Arizona Libraries, and Kate Stratton, collection development archivist at Gates Archive in Seattle, Washington. They argue that the lack of a common terminology for the archives and digital preservation fields has augmented the challenges that archives and archivists face in effectively tackling the challenges that an increasing number of collections are posing—particularly when it comes to their digital components. Therefore, one of the main goals of *Digital Preservation Essentials* is to synthesize what theorists and practitioners have to say about how to preserve digital objects and to explore concepts, standards, and systems, rooting them in practical examples.

Module 12: *Preserving Digital Objects* is organized in five main sections with an introduction that encourages archives and archivists to start small when starting a digital preservation program. The module includes a very helpful section on applying standards and introduces readers to the Open Archival Information System Reference Model (OAIS) as well as other standards and their application. The next section

provides context for preservation actions and is followed by a summary and recommendations. Finally, comprehensive appendices are included, with further readings, case studies, and more.

Throughout the module, O'Meara and Stratton move from theory to concrete steps that can be taken to build a digital preservation program. Walking the reader through the steps of improving storage architecture to mapping preservation activities by content type/format and on to applying standards within the digital preservation realm, the module gives an able introduction to OAIS and includes some advice as to how archivists might use the Submission Information Package (SIP), Archival Information Package (AIP), and Dissemination Information Package (DIP) documentation within the model to communicate with "technology partners and other stakeholders" (p. 16). The authors directly relate OAIS concepts to an archival context by explaining what a SIP, AIP, and DIP might look like in the traditional (i.e., non-digital) archive.

There is also a notable section titled Preservation Actions in Context, which is concerned with the preservation actions that must be taken on behalf of the AIP over the course of its lifecycle. As the authors take readers through arguments for the necessary preservation actions of ingestion through migration, readers begin to gain a sense of which ongoing actions are needed and, additionally, which can be automated within their own program. Throughout, the language is accessible and straightforward while not downplaying the complexity inherent in the challenges faced.

Readers are introduced to the OAIS informed standard for Trusted Digital Repositories (ISO 16363) in this module. As someone who has not yet delved into ISO 16363, I found the brief introduction as to why it is worth my time to explore it further quite compelling and am ready to learn more. (It's useful to note that Module 8 of the Trends in Archives Practice series is concerned with ISO 16363 for those wishing to explore it further without delving straight into the standard text itself).

One of the most practical and useful sections of the module is the Tool Comparison table (fig. 2), which seeks to first define four different Digital Object Description and Management tools and how various tools such as Digital Preservation Systems (DPS), Collection Management Systems (CMS), Institutional Repositories (IR), and Digital Asset Management Systems (DAMS) are different and alike. The table lists a series of functionalities and states which tools provide said functionality. While simple in concept, the table should be incredibly helpful for helping institutions decide how their current systems can aid in digital preservation activities. The table will also be useful for digital preservation advocacy to stakeholders who may feel that a DAMS is just as good as a DPS for preservation purposes.

Module 13: *Digital Preservation Storage* provides, in the words of the authors, "an overview of data storage in the archival context, examining ways in which storage technologies can be selected, implemented, and used to preserve digital records" (p.

78). Structured in four main sections, the module introduces the subject and its critical issues and best practices and then goes on to focus on currently available storage options. The Storage in Practice section serves as the practical advice piece of the module and should prove quite useful for those willing to answer the questions it asks and move forward with planning. The conclusion and recommendations section is followed by appendices which include further readings and case studies.

The introduction of *Digital Preservation Storage* begins with an image that archivists can relate to. “Imagine an archival repository that stored its physical holdings in closets, drawers, and strewn across tables. Not only would the documents and records be at risk of damage from threats like water, heat, and mice, but the archives would have trouble tracking materials and making them easily available to users” (p. 78). As mentioned when discussing Module 12, the analogies that crop up between the digital preservation world and the archives world throughout the text are a welcome way to draw the reader in and more fully express the concepts the authors are focusing on.

Further in the module, the authors provide a solid introduction to redundancy as well as a reminder that backups do not fulfill a full replication strategy. Using the easily remembered 3-2-1 rule of thumb (meaning that preservation requires **three** copies of the data on **two** different storage media, in at least **one** geographically disparate location), the authors provide a place to start when thinking about replication. Types of storage and storage tiers are also discussed, with brief non-technical introductions for each.

As mentioned above, the section Storage in Practice discusses storage planning. With a set of key questions that the reader should answer to aid in the selection of appropriate storage types, the authors do a service to the reader in that, if answered, one could come away from this text with a comprehensive list of requirements for storage. Once those requirements have been developed, the text guides one through next steps, such as creating a matrix to “evaluate and compare available storage options” (p. 95). The final planning phase consists of comparing cost models and the authors have practical advice for accomplishing this as well, citing factors such as initial purchase, maintenance and support, refresh and replacement cycle, and other factors such as data storage growth, staff salaries, and consortia membership commitments.

There is much more that could be written about the cross section of these two increasingly interconnected fields, but the book is called *Digital Preservation Essentials* for a reason. Instead of overwhelming a somewhat anxious audience with too many details, the authors instead introduce the essentials along with easy to understand strategies for getting to work preserving data. Instead of the doom that permeates some digital preservation writings, *Digital Preservation Essentials* is hopeful.

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