Preserving Complex Digital Objects Revisited

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**Abstract - This workshop revisits the iPres 2019 workshop on *complex digital objects* to address the opportunities and challenges generated by works created using novel or non-standard technologies. Collection management solutions for such objects are becoming an increasing need for museums, libraries, and archives. At the 2019 workshop, participants indicated they currently have complex objects in their care without a solution for preserving them. This updated workshop will draw on sector-wide progress as well as innovations catalyzed by rapid collecting initiatives to document the COVID pandemic. Preserving Complex Digital Objects - Revisited will again create an opportunity for digital preservation professionals to share insights and experiences and forge new paths forward together.**

**Keywords – file formats, time-based media, technology watch, collaboration, capacity building**

**Conference Topics – Community; Exchange; Innovation**

1. Learning Goals

* Participants will collaborate and exchange knowledge and practical experiences with other group members to enhance community understanding of approaching objects for which few or no collection management solutions exist.
* Using the concept of *minimum viable preservation (MVP)* [1], participants will gain practical know-how to get started in planning for the preservation of complex digital objects at their home institutions.

1. Description

Although progress has been made within preservation communities (e.g., digital preservation, time-based media conservation, web archiving) since the 2019 workshop, the challenges that works created using novels or non-standard technologies pose to collecting institutions persist and grow as technology evolves. These works cannot be resolved by any single sequence of preservation actions, reference model, tool, or service. Collecting institutions must react to the growing remit of their collections, the ways creators realize their works, and adapt to these contexts.

This workshop addresses the practical challenges of ‘complex digital objects’, as defined in the 2019 workshop. No matter how up-to-date, responsive, and well-resourced an institution’s response to digital preservation might be, the knowledge needed to manage and preserve these objects will always lag behind the growth of the technology used in their creation.

The organizers will apply the research they have undertaken in this area to small group activities. This approach will help to engage members of the digital preservation community to cultivate shared knowledge and to anticipate similar challenges that their institutions will encounter.

1. Background

## Tate’s Time-based Media Conservation

Tate’s Time-based Media (TiBM) conservation team is responsible for the preservation of Collection artworks using performance, film, slides, video, audio, and software. More recently, web-based artworks have also made their way into the collection, which has resulted in new research into preservation strategies and implementing new processes within the pre-existing framework. In some cases, the object of preservation is not necessarily the software or data but the experience of the artwork. The TiBM team has developed risk assessment and analysis processes to evaluate the vulnerability of individual artworks and technologies and identify the diverse options for preservation (from storage to migration and emulation). Documentation of the artwork and its technical history, while making the work more sustainable, pre-empt future issues, and guide any intervention to maintain the artwork's functions in the present.

## Cambridge University Library

Cambridge University Library is increasingly collecting born-digital works that can be considered *complex digital objects*. These works exist within the Library’s archives as well as deposited to the University’s institutional repository. This challenge is not unique to CUL but experienced by libraries and other collecting institutions worldwide as digital works are increasingly made in a diverse range of formats, many of which share characteristics with more complex digital works found in time-based media collections.

CUL Digital Preservation takes a lifecycle approach to digital preservation, embedding activities that help ensure ongoing and faithful access when and where necessary. In addition, the Digital Preservation team is engaged in a wider community of practitioners researching complex digital objects, including the UK Legal Deposit Libraries’ Emerging Formats work about the collection management needs of complex born-digital published works in scope to collect under the UK’s legal deposit regulations.

## Edinburgh University Library

Edinburgh University Library (EUL) takes a converged approach to digital preservation, collaborating across teams and working closely with academic partners. Across the Archives, Art Collections and Museums, Digital Library, Research Data Management, Learning Teaching Web, and beyond, professionals with different backgrounds collaborate and share best practice. As the formats and media used to disseminate information evolve, so too does the Library’s commitment to support their preservation and use by an international community of researchers.

This integrated approach supports the increasing need to find inter-disciplinary solutions for maintaining access to complex digital objects. From database-driven services to world-changing research data in obscure formats, these complex objects require a range of professional skill sets to understand and maintain. As EUL continues to explore experimental and practical solutions, they seek to share lessons learned and discover how others approach these challenges.

1. Content

This workshop will discuss definitions for complex digital objects and provide an overview of the known challenges to preserving them. The first section of the workshop will focus on three predominant challenges:

*1)* Defining the complex digital object and its significant properties and using this information to decide what to preserve.

*2)* Problem-solving technical dependencies, including software and hardware environments.

*3)* Strategizing for digital rights management and intellectual property rights.

The organizers will present three case studies that exemplify these challenges. Participants will then break out into small groups for an activity designed to analyze and problem-solve the challenges of preserving complex digital objects. The activity will lead participants through a practical, ‘less is more’ approach, like the MVP approach described by Matthew Addis and ‘parsimonious preservation’ described by Tim Gollins [2]. Each small group will focus on identifying preservation needs (based on end user requirements) and then on formulating targeted solutions. Though the definition of ‘minimum viable’ will vary from institution to institution, the practical constraints of maintaining such complex digital resources (especially if at scale) are almost universal.

In the final 30 minutes of the workshop, participants will feed back the results of their small group activities and discuss common trends as well as divergent approaches. Feedback will be collected and recorded to document ideas and analysis generated by participants. The workshop aims to identify opportunities for collaboration in the development of new approaches.

# REFERENCES

1. M. Addis, “Minimum Viable Preservation”, DPC Blog, 12 November 2018, <https://www.dpconline.org/blog/minimum-viable-preservation>.
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