Lessons from the National Archives of Singapore’s Journey Developing a Digital Preservation System for Public Records

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**Abstract – This poster presents a case study of the ongoing development of a digital preservation system for public records at the National Archives of Singapore (NAS). It describes some challenges faced and lessons learnt, applying the conceit, “If I could travel back in time and speak to myself shortly after I joined this project, what would I say?”**

**Keywords – digital preservation system**

**Conference Topics – Resilience.**

# Introduction

The National Archives of Singapore (NAS) began planning for a digital preservation system for public records in 2016. This project has taken significantly longer than planned, and is still ongoing at the time of this presentation. Delays have stemmed partly from security considerations and difficulties engaging qualified vendors locally, and thus may not have been easily avoided. Nevertheless, the delay has resulted in some notable challenges.

# The need for a Digital Preservation System

The NAS is given a mandate under the National Library Board (NLB) Act of Singapore to implement a records management regime across the whole of government and to preserve records of archival value for future access.

The NAS has so far mainly taken custody of public records in paper, preserving them on microfilm and, where necessary, in the original. However, as public records in Singapore are increasingly born-digital because of a nationwide push towards digitalisation, and while physical space remains a premium in our island city state, the NAS anticipates the need to preserve most of its collections digitally in the future. Thus, the need to develop a digital preservation system for public records arises.

# A brief history of the project

Planning for the preservation system began with the project in 2016, with security being a key consideration from the start. Relevant security-related stakeholders were consulted. This turned out to be a time-consuming process, taking up nearly a year, not least because it was also the team’s first time working on such a system, and some learning and experimentation had to take place along the way. The outcomes of this consultation shaped the design of the system significantly.

An initial tender to develop the system was published in 2018. However, this tender was unsuccessful, in part because of the limited number of vendors operating in Singapore with the experience needed to address both the security and digital preservation requirements.

In 2019, the NAS embarked on a Proof-of-Concept side project, working with a vendor to identify pain points obstructing the implementation of a preservation system complying with the NAS’s specific requirements. Specifications for a second tender were drafted to broaden the digital preservation requirements and to provide greater clarity on how security requirements could be addressed. A second tender was called in late 2021 and awarded in February 2022.

# Challenges faced

The project is now entering its 6th year. This longer-than-expected project time frame has led to several challenges, which the project team has had to address:

1) Transfers put on hold: Transfers of digital records to the NAS were put on hold awaiting the implementation of the system, since the system is needed to perform checks on records before ingestion. This has led to increased pressure from government agencies and risk that records would be left unmanaged and lost.

2) Spill-over effects: The digital preservation system is designed as part of a suite of interconnected systems and local standards, whose development has continued even as that of the preservation system has lagged behind. Uncertainty about what the preservation system will finally look like spills over into these related projects, as additional care must be taken to ensure they all work together once completed.

3) Scope creep: As the project has gotten older, it has become easier for staff to lose sight of what a preservation system is actually intended to do, so that it is sometimes assumed that the system will solve any preservation-related problem, when in fact better solutions may lie elsewhere.

4) Knowledge transition: The project is old enough now that ordinary staff turnover has led to none of the archivists involved in the project today having been around at its start. New staff have had to learn digital preservation very quickly, relying on email records to understand decisions made by staff who have since left the organisation.

# Lessons Learnt

If the author had access to a time machine, he would have the following advice for his younger self:

1) Jumpstart your digital preservation education. The best way to learn is by doing, so start doing things as soon as you can.

a) Understand that a preservation system is only part of the puzzle. Understand what activities are involved in digital preservation, and where the system fits in these activities. Start doing the work that you can do, and start planning for the work that needs to be done once the system is ready.

b) An end-to-end workflow really does matter. You will come across this concept very quickly in your digital preservation research. It is very easy to brush off as common sense, but don’t. The sooner you realise how important this idea is, the better.

2) Expect delays and surprises, and factor them into your plans. If you are delaying accepting digital transfers, don't take for granted that you are going to be able restart them in X years. Think about what you can do for your stakeholders in the meantime, and what they can do for you. You may even want to include plan for interim transfers.

3) Manage expectations and lead by example.

a) Whatever digital preservation work you do aside from work on the system, keep management constantly appraised, so that they understand as well as you do that the system is not the whole solution, and an ongoing investment of resources is needed for the project to be sustainable.

b) No matter how much you tell them otherwise, people are going to keep acting as if preservation is only about storage. You have to be prepared to keep showing them that it is not through your actions, for example, by nvolving them in preservation planning discussions.

4) Don’t over-specify your system. Build in flexibility. Make up for your own, developing expertise by asking for a vendor who will not only take direction from you, but will partner with you to figure out and develop the system together. Ideally, you would get a vendor with subject knowledge, but you can just as well do with a vendor who will ask you the right questions during requirements gathering.

# Moving Forward

While frustrating for those involved, the delays in the project timeline may be seen as a blessing in disguise, as they have forced the team to grapple with problems that some might argue are unavoidable, and better confronted earlier than later. The team has learnt a lot in this time, and with the second tender successfully awarded, NAS looks forward to implementing its new system by 2023.