



## Recollected: working with GLAM partners to implement a shared Digital Asset Management system at the University of Western Australia

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### Abstract:

*Digital Asset Management systems are complex pieces of technological infrastructure which perform a range of crucial functions within an organisation's digital landscape. A recent project at UWA took this complexity one step further by purchasing a DAMS to manage digital collections on an enterprise-wide scale. Faced with the intricacies of the DAMS itself and the varying needs of a broad user group (which included galleries, museums, archives, research collections and libraries) the project team dialled back to focus on the fundamental objectives common to all collection owners and how the system could meet them: description, discovery and access, and preservation.*

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## Introduction

This paper explores the ambitious implementation UWA Collected ([www.collected.uwa.edu.au](http://www.collected.uwa.edu.au)), an enterprise-wide Digital Asset Management system (DAMS) for the storage and discovery of digital collections at the University of Western Australia (UWA). The project was spearheaded by the University Library, with contributing partners including museums, galleries, and archives from across the campus, each with their own unique focus and requirements.

Whilst the technology underpinning the DAMS of choice (Recollect) is relatively new and complex and the collection owners' requirements were varied and nuanced, the project paradoxically returned the collaborating partners to their shared, basic grassroots objectives: description, access and preservation. It required that the Library's implementation team distil the needs of the contributors and the functionality offered by Recollect into these three fundamental areas.

This refinement process was challenging and refreshing, reminding all those involved of the core principles behind the work performed across the GLAM sector and how the systems used enable these to be put into practice. Ultimately, this return to fundamentals achieved the implementation, launch and operationalisation of a sophisticated platform that ensures the rich diversity of the University's collections will be accessible to a broad user community well into the future.

## Project background

In 2020, the five Western Australian universities partnered with the State Library of Western Australia and the Western Australian Museum to establish the Digitisation Centre of Western Australia (DCWA), in response to concerns that the state was lagging behind other parts of the country in digitising and thus preserving its rich and varied cultural collections (University of Western Australia, 2023). This undertaking was funded by an Australian Research Council LIEF (Linkage Infrastructure, Equipment and Facilities) grant (ARC, 2019) and direct contributions from partners, and the Centre was officially launched in February 2022.

*DCWA is an important piece of research infrastructure that aims to digitise, to global archival standards, the major Humanities, Arts and Social Sciences collections held in Western Australia. DCWA offers a digitisation service at archival level for paper-based, photographic, audio and audio-visual materials. (UWA Library, n.d.)*

As well as offering commercial services to external clients, DCWA allows partner institutions to purchase digitisation hours through a tiered membership model. When work began at UWA to identify and prioritise suitable material for digitisation, the rich diversity and international research significance of the collections were highlighted. It quickly became clear that not only did these materials warrant digitisation, but that at UWA there was also the need for a centrally-managed repository that was specifically designed to describe, preserve and provide access to collections once they had been digitised by DCWA. Housing these digital collections in a purpose-

built preservation and discovery system would not only maximise the return on investment in digitising them, but would also ensure ongoing access for researchers and interested user communities, both locally and internationally. Investing in the University's collections in this way also clearly aligned with University's strategic objectives related to Research and Innovation outlined in its strategic plan *UWA 2030*, specifically:

1. Invest strategically in data-intensive discovery
  2. Champion Indigenous knowledge and research
  3. Be the vanguard of innovative, well-resourced research infrastructure.
- (UWA, 2020, p. 17)

Once the procurement process was underway and various products were assessed for suitability, it was apparent that using one system for a variety of collecting bodies was not a common approach. The majority of use cases for DAMS were contained to one particular purpose, for example: managing digital assets for marketing or managing a single museum or archive. In contrast, UWA's collections were managed by a range of museums, galleries, libraries and archives, as well as research groups and individuals. The management of materials ranged from sophisticated collection management systems and bespoke databases, through to simple Excel spreadsheets. Some collections were neatly itemised, others were in stacks of boxes with no inventory to refer to. The range of materials and formats across the collections was vast. Bringing these varied collections and approaches together into one management system was clearly going to be a challenge!

Initial steps in procurement involved identifying key representatives from across UWA's GLAM community and requesting their input in compiling a list of shared and unique functional requirements against which products could be assessed for suitability. Ultimately, the DAMS which met the largest number of the specified requirements was Recollect, a cloud-based platform specifically designed for managing digital cultural collections (Recollect, n.d.). Collections owners' initial responses to the project and the choice to procure Recollect were varied. Those who had no CMS of their own were thrilled, not only at the prospect of having a means to manage and preserve their material, but also at the idea of the Library taking responsibility for its implementation and ongoing management when they had minimal resourcing to undertake anything similar. Some of the larger and more established collecting bodies showed reluctance at the idea of having to consider another system when they already had one that they believed was sufficient to meet their needs. Concerns were also expressed about the potential loss of autonomy when collaborating in a single system. It was important that these concerns were acknowledged and allayed, and therefore the Library team worked hard to communicate to partners that their input was valuable and would be considered and incorporated wherever possible. Ultimately, these collection owners agreed to participate for two main reasons. They were reassured that there were avenues to retain and celebrate the identity and diversity of the different UWA collecting bodies within Recollect and they were encouraged that the service offered centrally-funded preservation level storage and a public discovery interface (functions that were not available in their own CMS services).

## Implementation

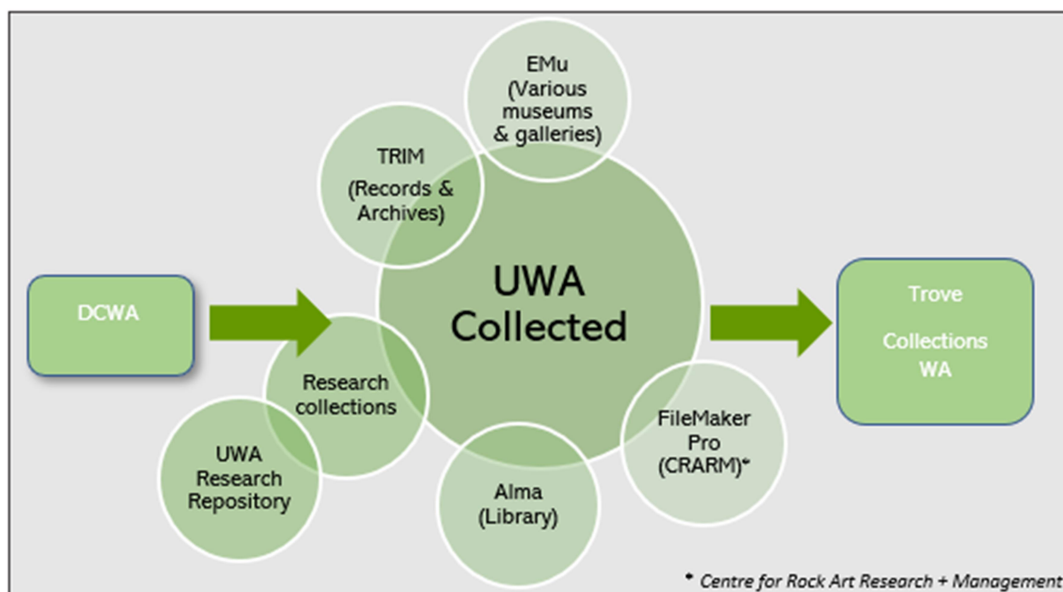
The implementation of Recollect at UWA was undertaken in two phases. The first was the establishment and configuration of the site instance - a collaboration between the Library, the University's IT Department and the vendor. The second phase, which involved building and launching a service for collection owners based around the Recollect system (which had now been branded as UWA Collected) was led by the Library. Throughout both phases, collection owners who had been identified as key stakeholders were invited to participate in discussions that required their expertise and input. These stakeholders included:

- University Records, Archives and Digitisation Services;
- the Callaway Centre (an archive and research centre within the UWA Conservatorium of Music);
- the Berndt Museum (an anthropological museum with an Australian indigenous collecting focus);
- The Lawrence Wilson Art Gallery; and
- University Library Special Collections.

Levels of input in various stages of the project fluctuated, largely due to resourcing availability.

Upon reflection, it is clear that the collaboration between the implementation partners listed above saw a return to the fundamental objectives common to all involved: accurate and useful description of collections, the ability for users to discover and access items (as appropriate), and the need to preserve collections to ensure their longevity and ongoing usability. The selection of Recollect as the means by which to achieve these has proven to be successful and productive, unifying a previously dispersed group of collections owners from across the campus.

UWA Collected's relationship to services and systems already in use at UWA is illustrated below:



## Description

Accurate and useful metadata is a crucial component in the management of any type of collection. It facilitates discovery, highlights potentially significant differences between similar items, enables robust administrative workflows and highlights points of connection between items (Haynes, 2018). Various metadata schema that capture characteristics unique to particular types of material have been developed over time, often becoming deeply embedded in collecting organisations' work processes. Given the range of materials UWA Collected was proposing to ingest and store, catering to the varied, nuanced and specific needs of our contributors with regards to collection description was a daunting prospect.

Fortunately, a significant step in any Recollect implementation is the development of a local metadata scheme. Within the database structure, there is significant flexibility to create record templates for as many material types as needed, as well as record templates for information about people, places, events, buildings and other entities, which are supplementary to the items themselves. In order to build a local scheme that catered to the needs of our implementation partners and future contributors, consultation and open-minded thinking were key. As librarians well versed in traditional library metadata encoding and content standards, the project team members were keenly aware that by pushing bibliographic descriptive conventions, there was every chance that contributors could feel that their needs were at best misunderstood or, at worst, dismissed. Conversely, catering to too many specific requirements all but guaranteed an unwieldy and overly complex scheme. It was clear that finding the balance in this part of the process was key to ensuring a successful implementation, as well as broad ongoing uptake from across the University.

In order to achieve this, the Library project team met with initial contributors from across the campus to gain a thorough understanding of their needs and expectations. The learnings from this were valuable, as there were numerous characteristics and uses of collection items that, as librarians, the project team was not expecting. These came mostly from the Callaway Centre and University Archives. The amazing range of objects retained by the Archives and earmarked for digitisation was not something that had been anticipated. Ranging from atomic roof tile fragments retrieved from Hiroshima after World War II, to UWA's first computer (an IBM1620), to a suspicious bugle, there were many characteristics which would require capturing in these diverse objects' metadata (UWA Library, n.d.)!

The project team also made use of relevant AIATSIS<sup>1</sup> resources to inform this part of the process. Controlled vocabularies and codes relevant to indigenous collections, such as Austlang, were embedded in all item templates and as the UWA Collected service expands, other features such as Traditional Knowledge labels will be included as required.

Once a thorough understanding of contributors' collections and metadata needs was gained, finding the overlapping requirements was reasonably straightforward. The critical and most delicate part of the process was identifying which points of difference were significant enough to warrant customised fields in item records and specific item type descriptors. Custom fields were both administrative and

descriptive; examples of the former include *Archival series number* and *Associated grant number*, with examples of the latter being *Location depicted* (recorded as geographic coordinates for photographs, artworks and maps), *Artist statement* (artworks) and *Sample rate* (audio). Specific item types created at the request of particular contributors included Flag and pennant, Weapon, Jewellery, Furniture, Field recording and Menu.

Elements for the scheme were taken from various sources, ranging from the traditional (Resource Description and Access (RDA), DCMI Abstract Model, Library of Congress Authorities) to collaborative, open sources (Schema.org) and culturally specific sites (AIATSIS, Austlang). These were combined with locally defined elements to create a product that was fit for every anticipated purpose.

It is worth noting that under the management model that governs the UWA Collected service, collection owners are responsible for creating and maintaining their own metadata. This practical arrangement ensures that they retain direct control of how their items are described, which is of particular importance for indigenous materials. By interacting with the scheme in a very direct manner, collection owners are also in a strong position to provide constructive feedback to the Library team on any gaps in the scheme. These can be easily amended within the Recollect system should the need arise.

## Discovery and access

A key driver of the project to implement a DAMS at UWA was to facilitate the discovery of and access to collections across the campus that were largely inaccessible to students, staff and the broader community. Some museums and archives had no means for the public to search their collections, even if their physical spaces were suitable for viewing them. Other physical collections were housed in rooms and buildings that were not intended as places for interested users to view specific physical items or browse collections to enable serendipitous discovery of resources (Burrows & Verhoeven, 2023). In fact, the very existence of many of the collections was not widely known beyond those people who manage them. Collection owners recognised existing barriers to access and shared the goal of removing them using an online platform. Furthermore, they were united in their appreciation of the fact that greater accessibility leading to higher levels of research-driven use often leads to increased funding.

Discovery is the precursor to access and as such, it was essential that UWA Collected provide sophisticated search functionality and a browse option to allow for the chance discovery of unanticipated resources. Both of these were available as standard, but offering end users multiple avenues by which to commence their exploration of material across the site was important. To that end, the UWA Collected home page includes hyperlinked tiles for featured collections, which can be refreshed regularly to highlight recently added or significant content. These tiles lead directly to the items within the chosen collection. Additionally, our major contributors each have their own web page within UWA Collected, which highlights their specific collections and provides further information about them and their services. These

web pages also feature a widget that searches across that contributor's collections only. Other contributors to UWA Collected also have information pages about them and their collections. These are less prominent and do not include the search widget. These features not only facilitate browsing of collections but also allow the contributors to UWA Collected to retain a strong sense of their individual identity and purpose.

One of the features of UWA Collected, which allows the exploration of collections to truly come alive, is the links that can be created between collections, items, and information pages. As part of the metadata configuration process, specific fields in the different types of records can be linked to create connections between records, potentially making previously unknown relationships between different collections apparent. Even during the implementation phase with only pilot collections ingested into UWA Collected, links were discovered between items in the oral history collection, the UWA Guild student magazine, UWA Senate minutes and a Library orientation video from the 1960s. Each of these items came from a different contributor and there was no previous way of making these connections between the physical objects housed in their various locations and described in their separate systems.

The implementation partners embraced this potential for enriching their collections and were key participants in discussions around the types of records and fields that could maximise the impact of this functionality. They share an ongoing commitment to maintaining the accuracy of this metadata to continue building the network of connections between items, people, places and events described in UWA Collected. This is heavily promoted to new contributors in initial discussions around managing collections in this system, and the expectation that they will support this endeavour is emphasised.

Once a resource has been discovered by a UWA Collected user, there are several access pathways that may be encountered: full access via the platform's embedded viewer, the ability to download an access copy of the file, mediated access, requiring approval from the collection owner or no access at all, due to digital files being redacted. Ideally, as much content as possible is made freely available via UWA Collected, but contributors are given the option to impose access restrictions if required. This area has proven tricky to configure and manage, highlighting the challenge of using Recollect in this unprecedented enterprise-wide manner. Thus far, restricted access based on user groups, individuals, families and gender has been flagged as necessary, and access considerations around copyright, cultural sensitivities, Indigenous Cultural and Intellectual Property (ICIP), and the offensive nature of some material have been identified. The system does not currently contain all of the features needed to manage these easily, and enhancement requests for additional functionality to do so will be submitted until this is possible.

Prior to their collections being ingested, collection owners are required to sign a Memorandum of Understanding with the Library, agreeing to manage any access restrictions required for their content. The Library does not take responsibility for this aspect of the service. Collection owners must establish and record any copyright conditions and requests for mediated access are made directly to them. The Library can, however, action a takedown request if necessary.

The Library's experience to date is that collection owners see the benefits of managing this aspect of access to their material themselves. It reinforces their custodianship over their collections which is a responsibility taken very seriously (particularly in relation to indigenous materials), as well as ensuring the seamless transition of governance in the event of an individual employee moving on.

## Preservation

Many of the physical collections held across the UWA campus are either rare or at preservation risk, with even minimal handling or playback being potentially damaging to their fragile state. The tension between realising the value of these materials for research purposes through use, and the need to minimise their degradation is strong, placing collection owners in a difficult position. The establishment of DCWA and its ability to create preservation level digital copies of these materials through a single use or playback was recognised as a huge step forward in ensuring the longevity of the physical collections held at UWA.

The importance and methods of preserving these collections' digital counterparts, however, is not quite so visible or widely acknowledged. Digitisation of entire collections is an expensive exercise, and the resulting files must be stored in a system that has functionality specifically designed to protect their integrity and ensure the investment made in creating them is protected in the long term. The most effective means of preserving digital resources successfully is by using a system which can perform "the series of managed activities necessary to ensure continued access to digital materials for as long as necessary" (Digital Preservation Coalition, 2023) on the users' behalf. A large part of UWA Collected's appeal is that it has an in-built digital preservation module, which allows users to deposit files in the system and be confident that they will remain safely preserved for many years to come.

Arguably, the largest challenge faced in the adoption of a system with digital preservation capabilities is the long-term cost implication. Preservation level files can be extremely large and require significant amounts of storage space. For example, a small collection of film that was recently digitised by DCWA for the Callaway Centre resulted in 13.5 TB of preservation files. Long-term digital storage is not cheap, and with the storage requirements of UWA Collected expected to grow significantly in the coming years, it was essential that cost implications were understood, and a commitment was made to funding this moving forward. Fortunately, advocacy for digital preservation at UWA was successful and its critical role in ensuring the longevity of digital collections was appreciated at the highest levels. As part of the establishment of UWA Collected, funding projections for increasing ongoing storage costs were approved, conveying the University's support for its collections and their owners.

This commitment to robust digital preservation was significant in the promotion of UWA Collected to initial contributors and continues to be an attractive incentive to new participants. The importance of preserving digital collections was broadly acknowledged amongst the various collection owners, but without a strong understanding of how this could be achieved. The belief that placing digital files in



networked folders is sufficient to ensure their long-term usability was commonly held and debunking this notion has taken some user education. It is important to the Library team that contributing collection owners understand how their files are protected, as this knowledge leads to greater confidence in the system and the sharing of positive experiences with UWA Collected by word of mouth across the UWA GLAM community. It is as simple as providing files which are ingested into the Recollect server, at which point they are placed in deep AWS<sup>ii</sup> storage for preservation, and access derivatives are created. Scans for any file corruption or degradation are run regularly, and the results are monitored for any issues requiring action, with the original files being available to create new derivatives as needed. At UWA, there are yet to be any issues of this nature. The system vendor has processes in place to manage file obsolescence, so there is no need for monitoring of this at the local level.

The commitment to preservation of the rare and often fragile collections across UWA is a shared one and the establishment of UWA Collected has given rise to the opportunity to develop this commitment to include digital resources. Having a DAMS with the inbuilt capacity to manage this important function has been a significant benefit for collection owners, who can have confidence in the long-term health of their digital collections, and the researchers, teachers and broader user community who will continue to have digital access to these important and valuable materials well into the future. Now that the UWA Collected service is established, it is encouraging to see more collection owners coming forward to contribute their material and preserve it in this way. Some are larger collecting bodies, such as the Centre for Rock Art Research and Management and the Edward de Courcy Clarke Earth Science Museum, whilst others are individual research collections. These include the Strelley Literature Production Centre Collection, Seaweeds of the UWA Herbarium and the Anne Atkinson Collection, which focusses on Chinese immigration to Western Australia.

## Conclusion

There are many shared objectives across the GLAM sector, and the implementation of a system to manage and preserve digital collections at UWA has been a positive experience, which has highlighted these at a local level. Focussing on the grassroots fundamentals of description, discovery and access, and preservation, which were common to all contributors, laid strong foundations upon which to configure a robust system and ultimately launch a successful ongoing service. The input the project received from participating collection owners was invaluable in ensuring its success, as well as building a sense of community within the previously dispersed collections landscape. The value of this community has been clearly articulated by many of those involved and has been harnessed through the formation of the UWA Collections Group, a meeting of collection owners with similar needs and goals, who also face similar challenges in managing the materials they care for. This group's input into the ongoing development of the UWA Collected service is paramount in continuing the collaboration between the Library and other GLAM colleagues across campus as we work towards the shared goal of exposing the rich and diverse collections held at UWA to a global audience.

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## Endnotes

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<sup>i</sup> <https://aiatsis.gov.au/about/who-we-are/governance-and-structure>

<sup>ii</sup> <https://aws.amazon.com/what-is-aws/>