

Recordkeeping for Good Governance Toolkit

GUIDELINE 25: Implementing Access to Memory (AtoM) in the Pacific



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The original version of this guideline was prepared by the Pacific Regional Branch of the International Council on Archives (PARBICA) for use by countries around the Pacific.

We hope that you will use and adapt this guideline to suit your own organisation's needs and arrangements. In your use of this guideline, PARBICA only asks for attribution and for you to please let us know how you have used it – this helps us to measure the impact of the Toolkit.

If you have any questions about, or feedback on, these guidelines, please contact PARBICA at parbica.treasurer@naa.gov.au or via any of the contacts on the website: <https://www.parbica.org>.

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Introduction

The Pacific Regional Branch of the International Council on Archives (PARBICA) has developed this guideline on ***Implementing Access to Memory (AtoM) in the Pacific*** as part of the Recordkeeping for Good Governance Toolkit. It was drafted in consultation with PARBICA representatives from the following countries:

- Tuvalu
- Fiji
- Samoa
- Kiribati
- Vanuatu
- Solomon Islands
- New Zealand
- Australia

Access to Memory (AtoM) is a free and open-source web application that enables standards-based archival description and access to an institution's repository. The software was originally developed by Artefactual Systems in concert with UNESCO and the International Council on Archives (ICA) to encourage broader international representation in the archival and records management space. Artefactual Systems still support AtoM and they develop it further.

The Pacific Regional Branch of the International Council on Archives (PARBICA) is invested in promoting the effective management and use of records and archives across the Pacific, in addition to preserving the region's archival heritage. PARBICA also endeavours to understand any current technical or logistical barriers to Pacific institutions that are implementing archival management systems, so that informed recommendations and support can be provided. PARBICA is testing the applicability of the AtoM programme for Pacific institutions and their repositories, with improved archival management across the region at the heart of the pilot.

With the adoption of AtoM, institutions in the Pacific can benefit from increased discovery, access, and management, as well as flexibility in terms of how content is presented and viewed. For instance, AtoM can be tailored for public consumption in the form of a curated exhibition of digital objects, or it can serve as an entirely internal archival description system. Whichever the desired implementation, AtoM's architecture includes entity types¹ that allow a wide range of information to be managed and shared internally or externally, including but not limited to administrative, descriptive, and contextual data. All of the entity types employed by AtoM are influenced by international standards and have corresponding guidance for users to refer to when customising the entities that suit their repository's needs. Furthermore, AtoM supports multiple metadata schema, such as PREMIS, Dublin Core, MODS, and function and rights-driven standards recognised by the ICA.

Although AtoM is an approachable software, intentionally built to operate under minimal assumption of end-user requirements for access, there are some factors to take into consideration before implementation. A level of technical detail and preparedness, like identifying specific datasets to upload into the system or clarifying the arrangement and description standards an institution plans to follow, is necessary prior to administration.

¹ <https://www.accesstomemory.org/en/docs/latest/user-manual/overview/entity-types/>

System maintenance, budgeting, and support are also examples of concerns that institutions should acknowledge due to their long-term implications.

AtoM's customisable nature leaves ample room for users to plan and decide how best they want to administer the software within their respective institutions. Pinpointing the purpose of an institution's instance of AtoM and its core user base will help to guide the overall design of the environment. A general understanding of the software's capability will also make the technical and usage considerations before implementation easier to address.

Who is this guideline for?

This guideline is for staff at archives or in records management who wish to understand how best to approach implementing description and access using an online hosted software. It can be read alongside **Guideline 12: Introduction to Digital Recordkeeping**² providing a more detailed understanding about records being made available on a digital platform. For the training and knowledge sharing aspects of this guideline, readers may also benefit from referencing *Guideline 11: Training Pacific Island Government Officers in Using PARBICA's Toolkit – Train the Trainer*.

Implementing AtoM

Deciding how to use AtoM

The first thing to think about before implementing AtoM is the purpose of your institution in using it. Is it to manage records description, to upload and provide access to digital files to the public or within the institution only, or is it something else? AtoM caters for each of these scenarios.

Selecting a vendor

The recommended approach to finding an appropriate vendor for your needs is with the help of the PARBICA bureau. Below are several factors in making a decision.

Transparency and reputation

Select a vendor who demonstrates transparency, communicates clearly and openly, and about whom you can find good documentation. This can lead to a strong relationship and many other opportunities in future, for example, building partnerships with organisations outside of your own sphere. It might be beneficial to look for vendors who are already involved in the Pacific community.

Cost

A vendor whose costs align with your anticipated budgets is the first step in finding the correct host. When understanding the costs involved with a particular vendor, no stone should be left unturned. In the maintenance section below we discuss support, backup and recovery, and training. Some costs will naturally fall on you or the vendor. It is important to

² See full list of guidelines of the recordkeeping for good governance toolkit at <https://parbica.org/sharing-knowledge/publications/the-recordkeeping-for-good-governance-toolkit/>

understand the grey areas in-between so that you can effectively budget financially and for organisational effort.

Currency

Currency can be a tricky area; a host might not exist geographically in your region at all. A quotation in US dollars (USD) would vary year to year based on its relative value to the Australian dollar (AUD) or other currency, for example. Some years this might pay off, but in other years it might not. If a provider can quote in your local currency, you can remove this variability from your estimates.

Development requirements

Can you investigate a solution in enough detail to make sure that it fits your needs? In many cases, with open-source software or vendors that also develop a solution, development can be offered that will help a platform fit into your needs. If this is required, can your partners also benefit? Is the feature you are after already on a roadmap for someone else, and can it be made available without cost to you? Think carefully about what is needed and consider alternatives if something will not work out of the box for you.

Roadmap

Ask to see the developer's roadmap. Hosting providers or developers should have access to the future roadmap of a platform. A roadmap describes future technological changes which sometimes have an impact on the underlying database or display of data. While it might be unavoidable, an organisation does not want to be caught off guard with a need to migrate a database in the near future. In some cases, future changes may also be enough to hold off on a platform until new a new version is available.

Keeping up to date

Assuming a cloud-based deployment, your vendor should be able to keep your service up to date and keep pace with existing software releases (a good rule of thumb is one version prior to the current major release). Your vendor should also have a proven record patching the system quickly when security threats are discovered.

Overview of options

Three vendors have been identified with the potential to host AtoM for archives in the Pacific. Some of the features of each in this role are laid out below.

| Artefactual ³ | Gaia Resources ⁴ | Prosentient ⁵ |
|---|---|---|
| <ul style="list-style-type: none">• Original developers of AtoM.• Most comprehensive ability to support AtoM.• Large number of users. | <ul style="list-style-type: none">• Experience of hosting AtoM in partnership with Pacific institutions at the Pacific Manuscripts Bureau (PAMBU).• Environmentally conscious. | <ul style="list-style-type: none">• Australian-based hosting.• Experience working with Tuvalu National Library and Archives.• Invoicing in AUD. |

³ <https://www.artefactual.com/>

⁴ <https://www.gaiaresources.com.au/>

⁵ <http://www.prosentient.com.au/>

| | | |
|--|---|--|
| <ul style="list-style-type: none"> • Good community channels for communication. • Based in Canada with staff location across the globe, but if support provided from Canada, then time difference might become an obstacle. • Invoicing in CAD. | <ul style="list-style-type: none"> • Invoicing in AUD. | |
|--|---|--|

Technical considerations

Below are the different technical considerations when working with AtoM.

Web-based

Being web-based, the application requires users to have access to the internet and a modern standards-compliant web-browser. Users will normally be able to see much of the data available through the web interface. Users are also able to login to the AtoM application and see the data associated with their levels of permissions, e.g., draft records.

Data

Data can be imported and exported using standards such as Encoded Archival Description (EAD), MODS, Dublin Core via Comma Separated Values (CSV) or XML. The simplest way to import data is via CSV and templates for this import can be found in the AtoM user-manual⁶. CSV import sheets can be populated and edited using popular spreadsheet tools such as Google Sheets or Libre Office. It is a good idea to play around with the different data export formats (EAD and Dublin Core), as it will give you a good idea of the different ways your archival data can be represented, and they will have different advantages for their reuse⁷.

A web interface exists for adding records on a case-by-case basis and AtoM contains a wealth of fields that can be populated. The web interface will guide users toward the minimum number of fields that are recommended by ISAD(G) for a reasonable level of description. Archivists can also go beyond those recommendations when creating their records and will need to be logged in to add different types of archival record.

⁶ Import and Export in AtoM: <https://www.accesstomemory.org/en/docs/latest/user-manual/import-export/> accessed 20 December 2021

⁷ EADiva provides an accessible resource for understanding EAD and its complexities in more detail: <https://eadiva.com/about/> accessed 20 December 2021

Maintenance

A system like AtoM requires maintenance, even when hosted by an external vendor. Maintenance is usually carried by the system administrator, often in cooperation with the vendor/provider.

Maintenance contract

A maintenance contract with the vendor is a requirement. Maintenance from the vendor should include upgrades and application of patches, e.g., for security vulnerabilities. While maintenance contracts can do so much for an institution, there is work that you might still want to take upon yourself, for example, user acceptance testing after an upgrade. Familiarising yourself with the procedures adopted by the vendor for testing can only be beneficial, too. Backup of data is also important and is discussed below. In some cases, an application software will go through a major rewrite that has the potential to change your expectations of the software itself, and fundamentally change the underlying data model. In such cases the vendor should be available to walk you through those changes and understand the impact to your organisation as well as the type of testing you need to do to understand if migration to new major versions of the software have been successful. There may always be cases where procedural documents created by your institution will need to be updated with new ways of looking at the system, anecdotally, for example, a recent change to search in AtoM changed how users might lookup records. The affected institution's only recourse was to manage the change through their own procedures and training.

Training

Training should be included in any new contract with a vendor. Training should at least get users up to speed with the basics of any system. It is an added advantage, and something to inquire about, that training be offered periodically, e.g., per major release of the software, or on a yearly basis. This type of offering has two advantages: Introducing you to new features that might have been introduced and offering you the chance to ask questions. Periodical training can also provide opportunities for new staff engaging with the software to be brought up to speed as well.

Training should be budgeted; in case it is not as freely available as your organisation requires. Budget is discussed further below. When receiving training from a vendor, seek to record the session. A vendor should be able to offer this service and send you, or share with you, the final video. Recording the session offers you the opportunity to revisit important aspects of the system. If you have specific questions, you will have a reference for the answers provided to you. While new staff might require additional training, a recorded session from a vendor will also provide a foundation to onboard new staff as they join your team.

Training and procedural documentation is something you might develop for staff to develop a local understanding of the system, its capabilities, and how you want to see it used and operated. Starting this documentation from the moment you begin using the software is a good idea. Colleagues in the Pacific may benefit from sharing these training documents and PARBICA is able to facilitate sharing and reuse of any valuable resources such as this. The Guide we have been working on **User Guide for PARBICA AtoM Pilot** is based on that developed by the Association for Manitoba Archives (AMA) for their Manitoba Information Network (MAIN). We have built on it as we hope you will too. Hopefully it will provide a good

platform for you as well. The User Guide will be available on the PARBICA website together with this Toolkit.

Budget

It is recommended that budgeting for a cloud service is adequate to sustain a system for at least five years. At the beginning of the fourth year, the operation should be evaluated, and budgeting completed for years five onwards. Budgeting year on year may also be required as data-use is monitored and evaluated. For example, if a baseline instance of AtoM offers 50GB of storage, the organisation will want to begin contingency planning should it look like it is going to be exceeded. In most cases, it is not anticipated that the storage space of 50GB will be exceeded within the first 18 months of hosting, if at all.

The budget will include digital storage, training requirements (where sufficient training cannot be provided by the vendor), contingency support tickets, possibly also developers' time available for you to use and other matters that PARBICA will be able to help you to identify. It may optionally include such things as a custom web domain for your AtoM instance so that users can access a local domain, rather than a sub-domain that might be provided by the vendor. In most cases, it is anticipated that archives will use a sub-domain of their primary web host.

Sharing AtoM between institutions

This section should describe the impact of sharing an instance of AtoM for more than one institution. AtoM was designed with this in mind and institutions using one instance of AtoM are the use which it was designed for. Sharing one instance of AtoM brings some aspects you need to be aware of, e.g.

- The database is shared - as users of a cloud platform the vendor will have strict access controls in place that prevent you looking at the data from this perspective, i.e., you will not have access on the command line to be able to connect to the database and database secrets (users, passwords) will be restricted.
- Database processes are shared – processes which take a lot of energy can impact the ability of others to use the system. Likewise, you might find things running slower due to the impact of another's processing. To whatever extent the configuration of the server will enable as much as possible for PARBICA's requirements but consider running more atomic tasks, e.g., splitting up datasets, if it is at all feasible for you.
- Splitting the database if needed is technically feasible – but takes some effort, and communication.
- Search index is shared for all Archival institutions, search itself can be managed and restricted as needed.

Digital objects (see below) are collected together. If costs are pooled – be good partners, e.g., be careful about digital upload sizes.

All that aside, let folks know when you're going to be doing extra-large imports or other heavy processing.

Privacy in a shared AtoM instance

Using a shared instance of AtoM like this requires high degree of trust between the different pacific organisations, and also the vendor. Consider with regard for your institutional policies what information is suitable to host on AtoM for the Pacific and ensure that nothing

breaching sensitivity or privacy protocols is published there. Information in a shared instance, for example, is going to be visible in data backups that might be made available to each of the instance's participants. PARBICA is here to help discuss additional solutions for information that requires special care.

Digital objects

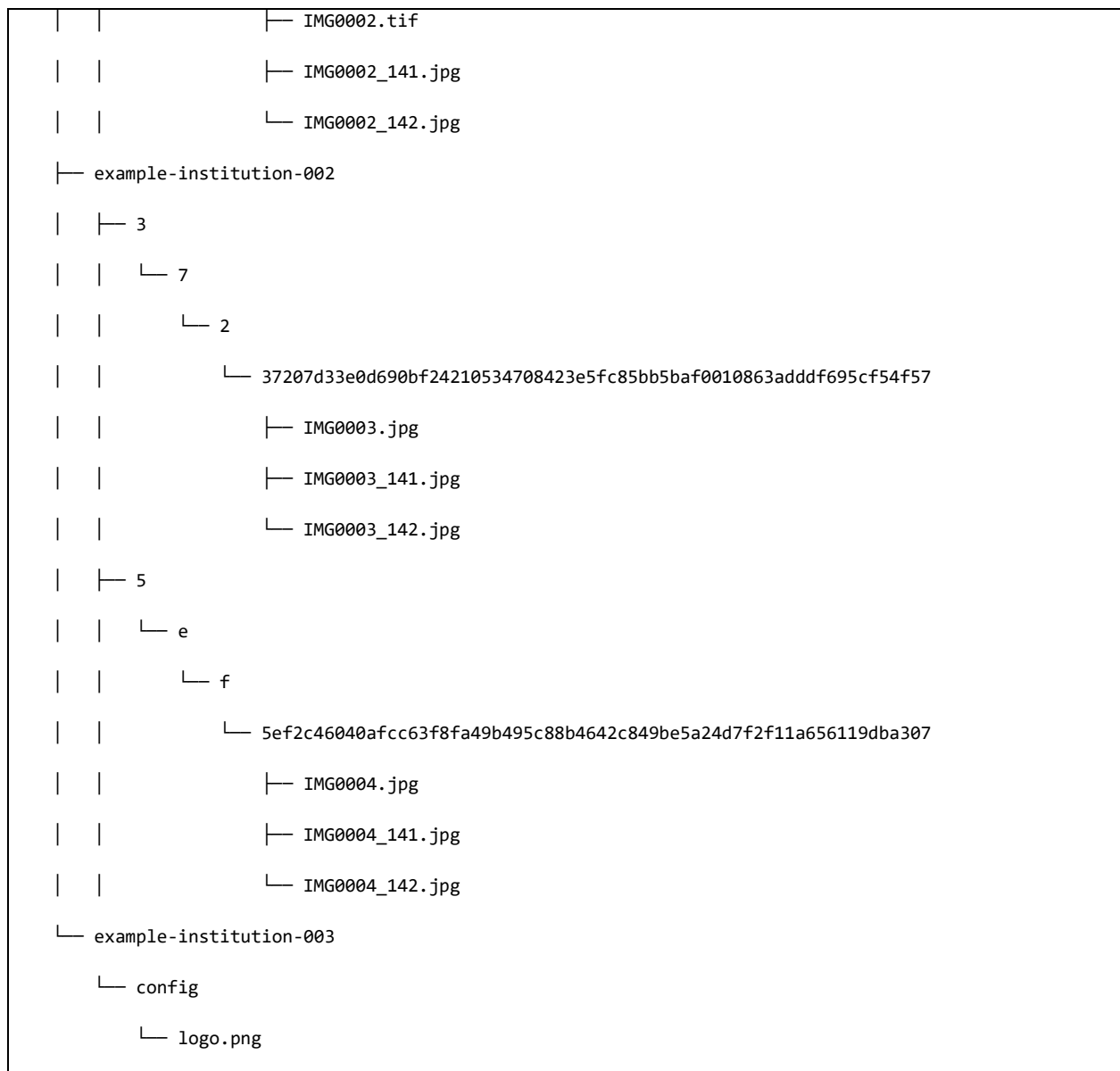
AtoM is designed for storing digital objects which are access-derivatives and their hosting should have a line item in the budget. Digital objects should not be originals in AtoM because they are not stored to a preservation standard, including lots of copies and adequate preservation metadata or preservation features. AtoM is not a preservation system or digital asset management system; the expectation is that AtoM is used along with one of these systems if there is a real need to manage and preserve digital objects. Digital objects uploaded to AtoM can be backed up like much of the data in the application, and more information about that can be found in the AtoM user manual⁸.

As discussed, when we looked at sharing of an AtoM instance, behind the scenes digital objects are stored on disk in a tree structure and might look something like his given three example institutions. While this may be useful if data ever needs to be migrated between systems and one institution's data separated from another, you will not normally interact with the data this way.

Directory Tree

```
r
├── r
│   ├── example-institution-001
│   │   ├── 0
│   │   │   ├── a
│   │   │   │   ├── 3
│   │   │   │   │   ├── 0a3c86a4e6a1f81230e33b597fdb87556edd510a3195fcc3828a3caab7190070
│   │   │   │   │   ├── IMG0001.tif
│   │   │   │   │   ├── IMG0001_141.jpg
│   │   │   │   │   └── IMG0001_142.jpg
│   │   │   └── 1
│   │   │       ├── d
│   │   │       │   ├── 5
│   │   │       │   │   ├── 1d5cf98cb9a92404cf7cab6ae99c8c0ea70e508ce50f561ceb3bf7b2b6b0bf79
```

⁸ Backup documentation in the AtoM user manual: <https://www.accesstomemory.org/en/docs/latest/admin-manual/maintenance/data-backup/> accessed 20 December 2021



Backup

The backup documentation referenced above should be read and understood. Backup should be planned and controlled process, usually provided by the vendor. You will want to understand how the vendor also takes backups for you as for a number of hosting plans you may not be able to do this for yourself. A backup should be available to you periodically, e.g., on a daily, weekly, or monthly basis. The greater the frequency, the greater the security for your organisation. The availability of a backup and possibility of using it for recovery in case of an event like data loss or similar is also important to understand. Recovery might not be immediate, usually takes hours or days, depending on the service provided by vendor.

A backup should involve creating backups of the database through the command line. A backup will also include digital assets created by the system, for example finding aids, as well as copies of digital objects you have uploaded with your archival description. Local translations (discussed below) can be backed up, but it is recommended to use only translations that are provided as part of the application and not maintained locally.

Backups should be maintained alongside other institutional backups with multiple copies made to keep them safe. These backups will likely be maintained according to your local institutional policies.

Keep in mind that to back up a system is to focus on the data that you keep in the system, not the system itself. This is important as while preserving system functionality might be highly desirable, it may not always be possible. Keep in mind too that a backup should not be relied upon for minor corrections in data; for example, a user accidentally changing the content of an entry. In small incidences like this, records will need to be re-written and updated.

An ideal situation would allow an institution to test backup and recovery procedures end-to-end to ensure that they work and are effective. The service agreement with the vendor should contain information about their practices here as well as a description of the impact to your organisation in the worst-case scenario if a backup needs to be used.

Exit strategy

An exit strategy is a piece of documentation that describes the options available to you for moving away from AtoM or in other cases, such as no longer being able to afford maintenance costs associated with hosting (hopefully an extremely rare scenario). Another way to look at an exit strategy is as a mitigation plan, and it has many uses, such as for disaster recovery. It will describe what you plan to do with your data in the immediate aftermath and explain what to do with data in the future. It may be enough in an exit strategy to understand how to access and understand the backup of the data that you will have been keeping as part of your regular maintenance. An exit strategy may also describe where you will store a final snapshot of the records developed in AtoM. Additionally, it may describe the types of electronic archival standards you anticipate using, e.g., EAD, and what a future system should be capable of using in the case of a migration to another system.

Collecting user issues

While you adopt a service to deliver archival description and access, you will also be running a service for your users. You, and your users, are likely to find issues in the software that cannot be answered through the various routes offered by the vendor. For the software itself there is:

- The manual: <https://www.accesstomemory.org/en/docs/latest/admin-manual>
- Wiki: https://wiki.accesstomemory.org/wiki/Main_Page
- Forum: <https://groups.google.com/g/ica-atom-users>

As an open-source software, it relies on users like yourselves engaging with these forums to keep the community moving. However, the forums may not always be the correct place.

Keep track of issues that you or colleagues face in a spreadsheet, and where there are links available to answers or forum questions, provide hyperlinks to those as well. It will provide an invaluable knowledge base to you over time. A register of this information will help you and PARBICA to develop future work requests.

Future technical considerations

It is anticipated that organisations will keep in mind a handful of different considerations around AtoM in the Pacific. These are discussed below.

On-premise installation

The question of whether on-premise installation is possible is likely to be asked by local IT applications support, and has benefits such as control of data, security, and greater control over the performance of the AtoM installation.

Where possible, it is recommended that users push back and seek to use AtoM as a service from another vendor. With benefits already described such as positive economies of scale, benefitting from shared learning, e.g., strategies, around disaster recovery and backup; and shared infrastructures. A cloud-based approach saves organisations from many of the issues around maintenance of infrastructure such as, for example, having to react to high-severity security issues, or upgrade the software within a reasonable time frame and not fall too far behind. It also protects an organisation against expensive disaster recovery following extreme weather events or other upheaval. A cloud-based approach lets organisations focus on the user and user-experience of the system, which requires significant effort in their own right.

If on-premise installation is still desired, a conversation can be started with PARBICA about how best to support you in that.

Internationalisation

AtoM is a software developed initially between French- and English-speaking partners. It benefits from a strong community of translators who make it available in other languages including Dutch, Spanish, and Portuguese. Internationalisation describes the process of making a software suitable for a specific international audience.

For Pacific archives, your languages (i.e., Tahitian, Samoan, Tongan, Māori, Hawaiian, and so on) can all be accommodated by working on translations for the software developer Artefactual. Translations take time and effort but contribute to an inclusive experience for your user groups and the decolonisation of the software over time.

Artefactual's Wiki has more information on how to contribute translations to the software and documentation⁹. PARBICA can help with understanding their platform for translation and beginning this journey.

Data sovereignty

Data sovereignty is the ability for a nation to secure and control its own information without unauthorised access and unlawful access from other countries for political gain. One way this is mitigated is to enact policy that requires data to remain on national territory. In the Pacific, with concerns around severe weather events, energy blackouts, physical threats, or other threats to infrastructure, it is expected that cloud-based hosting protects against much of these.

Data sovereignty is an issue maturing in archival discourse and should be monitored to understand the impact on Pacific archives options. Instead of seeking to bring data in-land

⁹ Contributing translations to AtoM:
<https://wiki.accesstomemory.org/index.php?title=Resources/Translation&oldid=2702> accessed 20 December 2021

again, seeking for a “data embassy” as outlined by Fricker¹⁰ (2021) is the preferred option for Pacific institutions and others where hosting may not always be feasible locally, e.g., for its impact on the environment, costs, etc.

Usage of AtoM

AtoM is very similar to other systems of the same nature and purpose, but it helps to make things easier and more accessible for administrators and daily users such as archivists and recordkeeping professionals. **The main purpose of the system is to manage (create, change, and/or delete) descriptive information of records.** AtoM also provides basic features for uploading and management of digital (digitised and born-digital) files to each record description.

The following section is a high-level overview about how to use AtoM. It attempts to capture some of the aspects of using the system that you may already want to have a picture of when you come to use it. The guide **User Guide for PARBICA AtoM Pilot** will provide more detailed information about getting up and running with AtoM. For even more detail about all aspects of AtoM’s usage and maintenance consult the AtoM documentation (<https://www.accesstomemory.org/en/docs/latest/>) Which is continuously updated and maintained by Artefactual Systems.

AtoM demo

Artefactual, who maintain and develop the system, have made a demo server available. Where PARBICA cannot always guarantee access to a demo server, it is recommended to take a look at the demo here:

- <https://demo.accesstomemory.org/>
 - User: demo@example.com
 - Pass: demo

Users can log in and make changes to records, create own Archival Institutions, upload Digital objects etc. The system is refreshed periodically, and all data is wiped after a short time. We recommend that the data input into the demo is kept sensible, but not specific or sensitive to your organisation.

Archival description

Atom categorizes information into seven different entities. They are described in the AtoM documentation¹¹. The entity types are as follows:

- Archival descriptions
- Authority records
- Archival institutions
- Functions

¹⁰ Second Memory of the World Global Policy Forum Disaster Risk Reduction and Management for Sustainable Preservation of Documentary Heritage: Safeguarding Access and Sovereignty for Documentary Heritage at Risk – a Case for the Data Embassy by David Fricker:

<http://www.mowcapunesco.org/wp-content/uploads/SecondForum-SCEaRNewsletter2020SpecialIssue2Final.pdf> accessed 20 December 2021

¹¹ Description of Entity types in AtoM: <https://www.accesstomemory.org/en/docs/latest/user-manual/overview/entity-types/#entity-types> accessed 10 February 2022

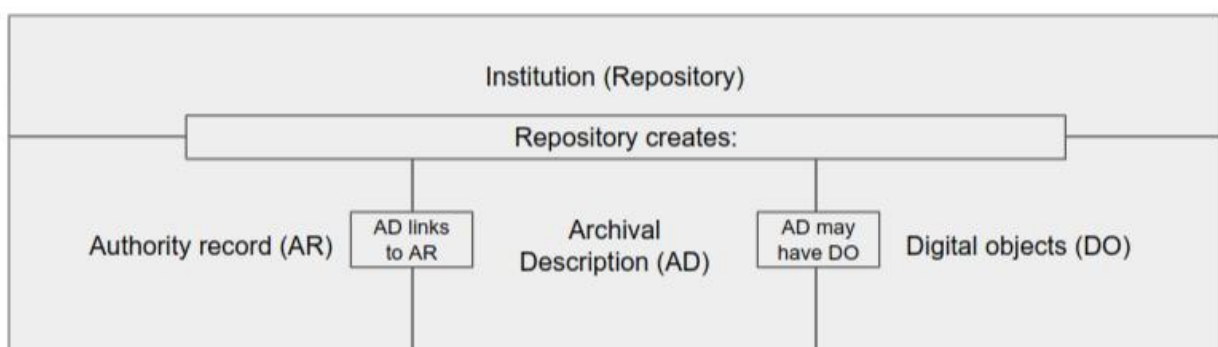
- Subjects
- Places
- Digital objects

New users of AtoM may be immediately interested in the entities visible in the user interface¹², plus, additional types such as place or digital object.

These entity types also are the main navigation entities you can use for navigation around the system (top left corner of the main AtoM page).

Developing a mental model of archival description in AtoM before you start

A mental model can help when getting started with AtoM. This model describes very simply the relationships between entity types but can help you begin the journey of describing your records using this new interface.



- Institution is also described as repository in AtoM and provides a container for all of your records. When creating new authority records or archival descriptions you will need to link those to your institution (repository).
- Archival descriptions are created by and links to your institution (repository).
- Archival description in AtoM is hierarchical, and will descend through different levels of description which you will likely already be familiar with. One such hierarchy:
 - Fonds -> Sous-fonds -> Series -> Sub-series -> File -> Item.
- Authority records are usually associated as creators of an archival description, or whom the archival description is about. AtoM described authority record as corporate body, person, or family, but could also be an Iwi/tribe or community.
- Archival descriptions will optionally have digital objects associated with them.
- Subjects and Places are similar to Authority record – can be used for adding more context to record description in consistent (controlled) way – interact with Archival Description and can be Authority records of their own.

Mandatory elements of AtoM record types

AtoM contains mandatory fields and will prompt you for more information if a record isn't complete. For Archival description, and authority records, that information is shown as it is in the user interface below. This may help you in navigating the system for the first time.

¹² These will usually be visible on the top-left corner of the AtoM front-page.

Archival description

This archival description, requires at least one **creator**.

Date(s) - This is a mandatory element.

Extent and medium - This is a mandatory element.

Identifier - This is a mandatory element.

Title - This is a mandatory element.

Level of description - This is a mandatory element.

Authority record

Authorized form of name - This is a mandatory element.

Dates of existence - This is a mandatory element.

Authority record identifier - This is a mandatory element.

Type of entity - This is a mandatory element.

Connecting the mental model to your institutions

Given a mental model, it may be helpful to look at a brief worked example:

An example might be Samoan independence from New Zealand.

- Records may be held by the **Institution**: National Archives and Records Authority of Samoa.
 - **Authority records** may be created to describe:
 - Samoan Government.
 - Samoan Independence Group.
 - New Zealand Government.
 - Records may be described hierarchically as follows:
 - **Fonds**: Samoan Government fonds
 - **Series**: Samoan independence
 - **Item**: Records associated with Samoan Independence:
 - Western Samoan Act of 1961,
 - New Zealand friendship treaty.
 - **Digital records**: digitised recordings, video, or digital copies of any records associated with those descriptions.

Record identifiers

Institutions might want to start working with AtoM with an already formed model of how identifiers for different types of record are given, or even with identifiers already assigned to entities like records, authorities.

If you already have identifiers assigned to your records or other entities, the rule of thumb is to keep them and migrate them to the new system, i.e., AtoM. The reason for taking them to new system is that it is very likely that your users or other systems are using those existing identifiers and relying on them for search and integration.

Identifiers for records in a digital context can take on an important role in identifying records for the future. Digital identifiers can form the basis of good permanent links (permalinks) and support unambiguous identification of records and record types. Well defined identifiers have the potential to live beyond the life of a system and will likely be translated into the next system of record used by your institution.

AtoM asks users to input identifiers for records **manually** AtoM has at least two different models of operation for this.

- Archival description records can be assigned an identifier automatically. If an institution types a manual identifier, it will be augmented with the institution’s country code and repository ID once the record is linked.
- Authority records recommend an identifier like archival description but it isn’t possible to create this value automatically and isn’t automatically augmented with country code and repository ID.
- All Identifiers should be unique.
- Identifiers should also have flexibility to grow.
 - E.g., a numerical identifier with 4 numbers can create 10,000 identifiers.
 - E.g., A numerical identifier with 5 numbers can create 100,000 identifiers.
 - An identifier might then be created using the initials of the record type – Archival Description (AD) and 5 numbers: AD12345.

Examples using ISAD(G) and ISAAR recommendations for identifiers (taken from AtoM) for different Pacific organisations are shown below.

| Country | ISO-3166 | Example Institution ID | Example Auth ID | Example Item (Archival Description) ID |
|-----------------|----------|------------------------|-----------------|--|
| New Zealand | NZ | PARB | NZ PARB AC00001 | NZ PARB AD00001 |
| Kiribati | KI | NAK | KL NAK AC00001 | KL NAK AD00001 |
| Vanuatu | VU | RBV | VU RBV AC00001 | VU RBV AD00001 |
| Western Samoa | WS | NAS | WS NAS AC00001 | WS NAS AD00001 |
| Tuvalu | TV | TNL | TV TNL AC00001 | TV TNL AD00001 |
| Solomon Islands | SB | NASI | SB NASI AC00001 | SB NASI AC00001 |
| Fiji | FJ | USP | FJ USP AC00001 | FJ USP AC00001 |

While it’s important for your organisation to consider Identifiers in detail, AtoM’s identifiers can have limited permanence because they are easily changed and easily duplicated – their uniqueness is not enforced.

For item records, institutions need only type the part beginning AD{XXXXX}. AtoM will complete the rest of the ID once the record is linked to a repository under “Repository” in the “Context Area” of the record being created. This is not a mandatory field, but it is highly recommended to ensure that this is complete in the PARBICA instance of AtoM

Setting up the institutions

There is an option to create different institutions within one instance of AtoM. This can be used when one instance of AtoM is shared between or used by more than one institution. It is possible to limit access to an institution only for certain users if needed, so only users from the relevant institution can login into it and add, edit or delete records descriptions. However, as it is still one instance of AtoM, there are a lot of shared features, e.g., search will be done across the whole instance, although filtering after search is possible.

Setting up the users

Levels of access to functions in AtoM is defined via user roles. Access level ranges from view-only access to full administration rights. There are five default user roles in AtoM, i.e., researcher, contributor, editor, translator and administrator. The default settings of user roles can be changed¹³.

| User roles | Description |
|---------------|--|
| Researcher | Public user who is not logged in (unauthenticated user). A researcher can search and browse descriptions. |
| Contributor | By default, a contributor can search, browse, create, edit/update, view draft and export descriptions. The contributor cannot change the publication status of an information object. A contributor can access the reference and master digital object. |
| Editor | By default, an editor can search, browse, create, edit/update, view draft, delete and export descriptions and edit controlled vocabulary terms. An editor can also change the publication status of an information object. An editor can access the reference and master digital object. An editor is also the only user group besides the administrator who can access the accessions module. |
| Translator | A translator can search and browse published descriptions and can translate user interface elements and database content. A translator should be able to view draft descriptions, but not edit them. |
| Administrator | An administrator can import, export, create, read, update, publish and delete any record in the system, can customise application to institution specific requirements, and can manage user accounts and profiles. |

¹³ See AtoM user manual - [Manager user accounts and user groups](#) and [Edit permissions](#).

| | |
|--|---|
| | Administrators can also create new user roles, set granular permissions for that role, and then assign or unassign users from the new role. |
|--|---|

Descriptive standards

Import and export of data is described above under 'Maintenance'. CSV import is based on RAD, or ISAD(G) standards. The repository field in CSV decides which institution in AtoM an import will be added to, and it will also create a new institution if the repository does not exist. Preview of data once imported can be done in ISAD(G), DACS, Dublin Core or MODS. It can be configured to be permanent by an administrator.

Creating Archival Description

AtoM provides the users with two expected ways of creating Archival Description, **manual** (via Add ('+' icon) -> Archival description) where you will need to fill in all the details into AtoM forms in order to create Record Description for example; and **bulk import** option which gives you a very elegant way to create multiple descriptions in one task. Bulk import is done via uploading a file which contains all the metadata you want to have in the description of records, authorities, archival institutions, including mandatory fields such as identifiers, titles. The import file can be a CSV or XML file.

For both options there are templates available in the AtoM Manual online¹⁴, they are reasonably easy to use. The process usually includes exporting existing metadata from your current system in XML or spreadsheet form, then copying the exported metadata into CSV or XML form – manually or automatically, e.g. via user-created script (Python, Ruby, etc.), in case it's a bigger project or a larger number of items being migrated.

AtoM provides an Import option in the main menu including the option to validate the CSV file that you have prepared so you know if it is well-formed and will be accepted by AtoM or not.

Search

Search is shared across one instance of AtoM — the index is shared and while searching for a query, the results come from all institutions if there is a record which fits to the query. Of course, restricted access records do not show up in the search result. The same is true for records descriptions in "draft", these only are visible as results if the user is logged in as institution administrator.

Digital objects

As previously discussed, digital objects should only be uploaded as access derivatives. Digital objects can enhance your archival description and provide alternative views of the

¹⁴ Import XML: <https://www.accesstomemory.org/en/docs/latest/user-manual/import-export/import-xml/#import-xml>; CSV import: <https://www.accesstomemory.org/en/docs/latest/user-manual/import-export/csv-import/#csv-import>, both accessed 20 March 2022

records in your custody. Digital objects can be uploaded and linked to any archival description with more information on the AtoM documentation¹⁵. Digital objects that have viewing restrictions and should be only accessible to an archivist (or Administrator or other AtoM user) can be protected via setting the restriction for display. All the details are described in the AtoM Pilot User Guide available together with this Toolkit from PARBICA website.

The most straightforward way to change restrictions for Digital Objects is to go to the Archival Description of that object, click on “More” button then “Create New Rights” and set up the restriction there. There is a bulk way via Administration and utilizing User Groups and relevant restrictions to set up who can access what in fine detail. These are described in AtoM Pilot User Guide as well.

Integration with other systems

An archival description system is rarely used in isolation and will often be connected to other systems. We have discussed digital preservation systems as the primary mechanism for storing digital objects. Other integrations might exist, such as consumers of archival description records that only need to access snippets of information, e.g., sending the ID of a record, its title, and hyperlink, to users of another institutional system. There is some basic information about connecting to Archivematica in the AtoM documentation.

There is also information about using the AtoM API (Application Programming Interface) that might be useful to developers. Integrations with other systems are an advanced topic that requires planning and development. Availability of API might depend on the hosting plan and needs to be confirmed with the provider; PARBICA is here to help coordinate those conversations with the vendor when they arise.

- Connecting to Archivematica:
<https://www.accesstomemory.org/en/docs/latest/admin-manual/maintenance/cli-tools/#manually-upload-archivematica-dip-objects>

API documentation: <https://www.accesstomemory.org/en/docs/latest/dev-manual/api/api-intro/>

¹⁵ Uploading digital objects to AtoM: <https://www.accesstomemory.org/en/docs/latest/user-manual/import-export/upload-digital-object/> accessed 20 December 2021

Glossary

| Term | Definition |
|-------------------|---|
| API | API stands for application programming interface. An API can enable software developers to read or write from a software using different programming techniques. APIs are often important for creating integrations between one software and another, e.g., for displaying information from one system in another, or updating information with data from another. |
| AtoM | (Access to Memory) is a free and open-source web application that enables standards-based archival description and access to an institution's repository. |
| Command line | A view of an operating system that relies on text input. The command line in an AtoM instance would normally be accessed for maintenance activities such as taking backups. This will normally be undertaken by the vendor. A command-line in Windows is synonymous with DOS (disk operating system) and in Linux (terminal). The command-line is usually accessed remotely over an encrypted channel called secure shell (SSH). |
| CSV | A comma-separated values (CSV) file stores tabular data (numbers and text) in plain text, closely resembling spreadsheets in their presentation of data. Plain text means that the file is interpreted as a sequence of characters, so that it is human-readable with a standard text editor ¹⁶ . Each line of a CSV file is a data record, and each data record includes one or more fields, separated by commas. |
| Digital originals | Digital originals are objects for which there is one reference copy from which all derivatives are made. A digital original is usually stored in a preservation system that monitors the object's integrity and is able to restore it from one of multiple backups if it is damaged. While it is possible to store exact copies of a digital original in AtoM, the system is not designed to perform many of the major preservation functions required to look after this data. |
| Dublin Core | (Dublin Core Metadata Element Set) is a metadata standard describing 15 core elements, e.g., contributor, coverage, creator, that provides an easily understandable, web-focused view of a digital record. |
| DACS | (Describing archives: a content standard) is an output-neutral set of rules for describing archives, personal papers, and manuscript collections, and can be applied to all material types. It is the U.S. implementation of international standards (i.e., ISAD[G] and ISAAR[CPF]) for the description of archival materials and their creators. DACS maps very nicely to ISAD(G) standard in AtoM. |
| EAD | (Encoded Archival Description) is a standard for encoding archival finding aids in XML (Extensible Markup Language). And is one of the primary export formats of AtoM. |

¹⁶ <https://www.nationalarchives.gov.uk/pronom/x-fmt/18>

| | |
|------------|---|
| ISAAR(CPF) | (International Standard Archival Authority Record for Corporate Bodies, Persons and Families) is a content model and a companion standard to ISAD(G). |
| ISAD(G) | (General International Standard Archival Description) is a content model developed by ICA. ISAD(G) provides guidelines for creating descriptions of archival materials, establishing a model based on the principle of respect des fonds within a multi-level description. |
| MODS | (Metadata Object Description Schema) was developed by the Library of Congress Network Development and MARC Standards Office as a MARC-compatible metadata format expressed in XML and using language-based element names. MODS takes a similar approach to resource description as MARC, with some rearranging, removing, and adding of data elements. MODS is frequently used as a descriptive metadata structure standard inside METS metadata wrappers for storage or exchange of digital objects. |
| Patch | A process or small unit of code that is applied to an existing application's software to provide enhancements or fixes, e.g., to shore up security vulnerabilities. A patch is smaller than a system as a whole. |
| PREMIS | (Preservation Metadata Implementation Strategies) provides a mechanism for encoding different digital preservation actions, e.g. checksum, format identification, in a textual format that can be easily understood by systems interacting with digital originals. |
| RAD | (Rules for Archival Description) is the Canadian archival descriptive standard. It provides a set of rules based on traditional archival principles, whose purpose is to provide a consistent and commonly shared descriptive foundation for describing archival materials within a given fonds. |