AtoM is a web-based access system designed to:

★ Provide templates for standards-based description and cataloguing
★ Manage accessions, authority records, physical storage locations, and taxonomies
★ Make analogue and digital cultural heritage holdings available and discoverable online
★ Provide robust browse and search capabilities for professionals and the general public
★ Handle multilingual content, including languages in non-Latin scripts

Use AtoM if your organization needs to:

★ Access easy-to-use, web-based edit templates that conform to international and national standards
★ Make your cultural assets available to a world-wide audience via a visually appealing and intuitive interface
★ Ensure that content can be easily migrated or exported using widely-accepted metadata exchange formats, with no vendor lock-in or proprietary restrictions

AtoM was developed by Artefactual Systems Inc., a company based in Vancouver, Canada. Artefactual continues to be the lead developer of AtoM, and offers hosting, technical support, consulting, training, data migration and other services related to the development and use of the software.

This information sheet is designed to provide detailed functional and technical information about AtoM. For a high-level summary, see AtoM system summary sheet 2018, available on the Artefactual Systems website.
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Q&A: Standards

What standards does AtoM support?

AtoM was designed to implement the descriptive standards produced by the International Council of Archives: ISAD(G), ISAAR(CPF), ISDIAH, ISDF. It also supports the Canadian Rules for Archival Description (RAD), Describing Archives: a Content Standard (DACS), Dublin Core, Mods and PREMIS (the Rights entity). For import and export it supports EAD 2002, EAC-CPF, MODS, and SKOS XML (for hierarchical taxonomies), as well as CSV import/export for many entities.

Can I add custom metadata fields?

Not without custom development. The goal of AtoM is to implement standards for long-term sustainability and data portability. While a developer could certainly modify AtoM to add custom fields, we strongly recommend against this. Having custom metadata fields would add a maintenance burden for software upgrades, create problems for future data migrations, and prevent the smooth operation of data aggregation for web portals and other centralized data repositories.

Will you be adding support for [XYZ standards]?

We do not have plans to add support for any more standards to AtoM. However, if developers in the community wish to add such support, it could be done by developing a plugin. This may require creating and maintaining a public fork of the software. If you are considering developing such a plugin, please let us know and we will point you to technical resources for development if desired.

What standard is used for the accessions module?

None. The accessions template is an exception to our standards-based approach, since unfortunately there is currently no international standard for describing accessions.

Q&A: Data entry

Does AtoM have different data entry templates that match the descriptive standards?

Yes. For resource descriptions, users can select the data entry templates that match the standard they wish to use (ISAD(G), RAD, DACS, Dublin Core or MODS). The underlying data model supports the display of more than one standard, so if the user enters data in a DACS template, for example, the data can still be displayed in ISAD(G) if desired. Note that authority and institutional records have only one standard implemented for each of them (ISAAR-CPF and ISDIAH, respectively).

Can I create custom templates?

Not via the user interface. The templates are based on the descriptive standards and it is not possible to add or remove fields without custom development.
Does AtoM provide drop-down lists and auto-complete fields?

Yes. AtoM makes extensive use of drop-down lists and auto-complete fields to facilitate rapid and consistent data entry. Examples include creator names, subject terms, place names, genre terms, physical storage location, note types, repository, level of description and many other data values. Nearly all terms that appear in drop-down lists in AtoM’s edit templates are available as terms in a controlled, user-editable taxonomy.

How do I link descriptions to authority records, accession records etc.?

These links can be made easily in the data entry templates using auto-complete fields. The templates allow for multi-directional linking - i.e. the user can create an authority record and add a link to one or more resources, link a resource to an existing authority record, or create a new authority record from within a resource. Many-to-many relationships are supported for most entities.

Can child-level descriptions inherit fields from their parent descriptions?

Yes. Certain data elements, such as name of creator and repository, are inherited by child-level descriptions. If desired, however, the user can change the creator or repository at a lower level without affecting the rest of the hierarchy.

How do I add access points to records?

Subject, place, genre and name access points can be added to archival descriptions, occupation access points can be added to authority records, and thematic area and geographic subregion access points can be added to repository records, using auto-complete fields in the data entry templates. The values are drawn from editable taxonomies created or imported by the user in the taxonomy module. Name access points are drawn from authority records.

Can I link physical storage locations to descriptions?

Yes. Physical storage locations are supported as separate entities and the user can create many-to-many relationships between physical storage locations and descriptions.

Can I perform global search and replace if I want to make bulk metadata updates?

This is supported to some extent by creating separate entities such as authority records, taxonomies and physical storage locations. For example, a subject term can be edited in bulk by editing one subject term that is linked to multiple resources. Additionally, some entities (such as archival descriptions, authority records, and repository records) can be updated via CSV import. Free-text global search and replace is not currently available, however.
Q&A: Data import and export

How do I import data from my old system?

Data migration is an iterative process that involves several steps. Begin by developing a data management plan to guide your process, identify roles, and anticipate challenges. The steps then progress from assessing your data, through cleaning the data, cross-walking with AtoM fields, exporting from your old system, checking the results and adjusting or repeating as necessary, transforming the exported data to an AtoM-compatible input format, importing the data into AtoM, checking the results and repeating as necessary. AtoM input formats for archival description are CSV, EAD 2002 XML, or MODS XML; for authority records, CSV or EAC-CPF XML; for accession records and repository records CSV; and for terms, SKOS.

Can I import external taxonomies/thesauri?

External terms can be imported into the existing Subject, Place, and Genre taxonomies, via SKOS import. Our SKOS import module supports many different SKOS serializations (e.g. RDF XML, N3, Turtle, etc.), and can be performed via local file upload, or by providing a URL to the target term hierarchy. Users cannot create new taxonomies without custom development.

Q&A: Display

How does AtoM display multilevel hierarchical descriptions?

Multilevel descriptions are displayed using a treeview feature that allows the user to easily navigate to the various levels of the hierarchy. Fig. A below shows an example:
How does AtoM present links to records creators?

At the top level where a creator is linked to an archival description, AtoM will pull in the related actor’s biographical or administrative history for display in the related description. The creator name is presented as a hyperlink that users can click to navigate to the related authority record. Additionally, contextual information about creators is presented in the right-hand context menu for quick reference. At lower levels, the creator name is automatically inherited (unless a user chooses to manually add a different creator), but the creator’s history is not repeated, to respect ISAD(G)’s General Rule 2.4 (Non-repetition of information) on multi-level description. Fig B. below shows an example of a creator’s biographical history being displayed in the body of the related archival description, with the name shown for context in the right menu.
A collection from the Council of Nova Scotia Archives’ MemoryNS portal site, showing the biographical history of a linked creator within the body of the related archival description. The creator name is also included in the right-hand context menu for easy reference.

Can I print out finding aids, box lists etc.?

Yes. AtoM offers public and logged-in users the ability to print lists of files and items, and logged-in users may also print physical storage reports, also known as box label reports. AtoM can generate finding aids with full details or an inventory summary in either Portable Document Format (PDF) or Rich Text Format (RTF). The “Inventory summary” includes lower-level descriptions (such as files and items) in a summary table beneath each parent record, such as a series, sub-series, subfonds, etc. When lower-level descriptions include more detail, such as a scope and content description, choosing "Full details" will display all fields available at each level of description. A comparison image is included in Fig. C below, with the Inventory summary on the left, and a sample item description with full details on the right:

Fig. C: A side-by-side comparison of two different layouts available for generated finding aids. The left image shows the “Inventory list” option, which includes limited details for file and item-level records. The right image shows an example of when the “Full details” option is used, where all levels of description are given a full section in the resulting finding aid.
Q&A: Languages and scripts

Does AtoM support non-English digital object filenames and descriptive elements, including multi-byte characters and diacritic marks?

Yes. AtoM is a multilingual application, and supports the display of any characters that can be expressed using UTF-8 character encoding. For long-term preservation we recommend not using special characters and diacritics in digital object file names, but AtoM will accept them. Fig. D below shows an example of a Greek AtoM site:

![Greek AtoM site](image)

*Fig. D: An AtoM site displaying titles, text, and links in Greek*

Can certain records/data fields be made visible only to logged-in users?

Yes. AtoM includes a publication status setting for archival descriptions, so that records can be marked as “Draft” to make them hidden from public users. Additionally, AtoM includes a Visible elements module that can be used to control the visibility of specific fields within the archival descriptive templates (currently supported for the ISAD(G) and RAD templates only). At this time, there is no publication status setting for other entities such as authority records and repository records.
Q&A: Customization

Can I create/customize menus, drop-down lists and auto-complete fields?
Logged in users with administrator privileges can customize existing AtoM menus via the user interface by editing default menu labels, creating and moving menu nodes to different positions on the page, and even deleting menus as necessary. Terms that appear in drop-down lists can be customized via AtoM’s taxonomy module.

Can I create my own custom theme?
Yes. Existing themes can be customized through the user interface or by editing the appropriate css and .php files, for example uploading your institution’s logo or banner, changing the content of static pages (home page, about page), editing user interface labels, or revising the default drop-down lists. With more development expertise, or an Artefactual support contract, you can also create a fully customized theme.

Q&A: System administration

Does AtoM require any third-party applications in order to function correctly?
AtoM system requirements and dependencies are listed in our administrator manual, available here:
- https://www.accessstomemory.org/docs/latest/admin-manual/installation/requirements/

Do any required third-party applications require additional license fees or custom integration?
No. All third-party applications required by AtoM are open source.

Where are system logs stored and how are they kept secure?
System logs can provide diagnostic information to determine that the application is working as intended, and assist in debugging problems when they arise. The Symfony framework used in AtoM includes a number of logging options which can be customized based on developer or system administrator needs. Standard PHP logs provide error reporting, and the web-server also has its own logs which can be used for troubleshooting errors. Additionally, the search index (Elasticsearch is used in AtoM as the search library) and the job scheduler (which allows long-running tasks to be performed asynchronously in the background) both have their own logs. The location of these logs will depend on your installation of AtoM. Symfony also provides a variety of custom event logs. These are highly configurable for event type and level. Security is handled by the security.yml configuration file, which describes the authentication and authorization rules for a symfony application.
More detail can be found at the following links:
- https://www.accessstomemory.org/docs/latest/admin-manual/maintenance/logging/

Can I create different kinds of user accounts with their own sets of permissions?
Yes, AtoM has several roles, including:
AtoM online access system

Administrator - An administrator can import, export, create, read, update, publish and delete any record in the system, can customize application to institution specific requirements, and can manage user accounts and profiles. Administrators can also create new user roles, set granular permissions for that role, and then assign or unassign users from the new role.

Researcher - A researcher is any public user who is not logged in (sometimes called an unauthenticated user) and therefore has view-only access to the application. A researcher can search and browse published descriptions, and can view and download digital objects, depending on the permissions attached to the objects.

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 that 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.

Administrators can also create their own user groups with custom permissions, and individual user permissions can also be configured.

Can AtoM be integrated with LDAP and Shibboleth for single sign-on?

AtoM does include basic LDAP integration support. The current functionality has not been tested with Shibboleth at this time.

How is AtoM protected against intrusion?

AtoM has previously received penetration testing and security enhancement development sponsorship from the IT teams of organizations such as the World Bank Group, the United Nations and the City of Vancouver Archives. AtoM’s administrator settings also include some security options, such as the ability to require HTTPS connections for authenticated users, and the ability to restrict access to specific IP addresses or a range of IP addresses. Additional security measures can be applied by systems administrators during deployment. If desired, a 2-site deployment setup can also be used, wherein the read/write edit site is maintained internally behind a firewall with login completely disabled on the public-facing read-only instance.

How can my data be recovered in the event of a system failure, failed update etc.?

Making regular backups of the mySQL database is essential. Backups of the uploads directory (i.e. the directory containing uploaded digital objects) and translations are also necessary if applicable to your installation. For more information see the online AtoM administrator manual.

Can AtoM be run as a multi-tenanted platform?

Yes. AtoM was designed for multi-tenancy, and is the software behind a number of provincial and national portals such as the Archives Association of Ontario provincial portal (https://www.archeion.ca/), the Canadian Archival Information Network (https://archivescanada.accessstomemory.ca/) and Diretório Brasil de Arquivos (http://dibrarq.arquivonacional.gov.br/). Some organizations have many users
entering data directly, while others act as centralized archival service sites, using a single administrator to upload content from multiple sources. In either case, the content is linked to the institution which has custody and control of the records.

**Fig. E:** Archeion, the Archives Association of Ontario portal, holds content from 182 institutions across the province.

**How many descriptions and digital objects can a typical AtoM instance support?**

A typical AtoM instance can support hundreds of thousands of descriptions and tens of thousands of digital objects, limited only by the amount of disk space available to you.

**How many users can simultaneously edit data?**

There is no system limit on the number of users simultaneously editing data. Practically, however, there may be conflicts if multiple users are trying to edit the same information object. The ability of multiple users to edit data may also be constrained by system workload - for example, a large CSV import or EAD generation task is placing heavy demands on the system.

**How can I optimize my AtoM site to enhance scalability?**

One way to enhance scalability is to use a two-site deployment, with a read-only public facing site, and an internal edit, or staging site. The public facing site is reproduced from your internal site via a
replication script. Benefits include faster display and enhanced security (this option is part of a Premium+ hosting service provided by Artefactual).

![General system diagram of a 2-site deployment using a replication script to synchronize content across sites.](image)

**Fig. F: General system diagram of a 2-site deployment using a replication script to synchronize content across sites.**

### About Artefactual Systems Inc.

Artefactual Systems was founded in January 2000 as a digital preservation consulting company, and expanded into open-source software development starting in 2006. The company now offers software development, technical support and hosting services, data migrations (from legacy systems into AtoM), training and consulting. The company currently has more than 90 AtoM hosting/technical support clients and at any given time has around 12- to 15 software development, data migration and consulting clients. The company has 25+ personnel, a diverse group which includes archivists and librarians, software developers, systems administrators, project managers and technical services managers.

### Find out more

- End-user and administrator documentation: [https://www.accesstomemory.org/en/docs/2.4/](https://www.accesstomemory.org/en/docs/2.4/)
- AtoM (Access to Memory) project website: [https://www.accesstomemory.org/](https://www.accesstomemory.org/)
- Code repositories: [https://github.com/artefactual](https://github.com/artefactual)
- AtoM public demo site: [https://demo.accesstomemory.org/](https://demo.accesstomemory.org/)
- AtoM Slideshare account: [https://www.slideshare.net/accesstomemory](https://www.slideshare.net/accesstomemory)
- AtoM on Twitter: [@accesstomemory](https://twitter.com/accesstomemory)