Building the future together:

AtoM3, Governance, and the Sustainability of Open Source Projects

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Dan Gillean - Artefactual Systems
@accessstomemory - http://bit.ly/AtoM-OR2018
What is AtoM?

AtoM stands for **Access to Memory**

It is a web-based, open source application for standards-based archival description and access in a multilingual, multi-repository environment.

**Key Features:**
- Web-based
- Open source
- Standards-based
- Multilingual
- Multi-repository
The impulse that eventually led to the creation of ICA-AtoM first came out of collaborative discussions between the ICA’s Committee on Descriptive Standards, Committee on Information Technology, and UNESCO. In 2001, a draft report was prepared by an ad-hoc committee from ICA-CDS to describe some of the functional requirements necessary for the online presentation of finding aids that conformed to the ICA standards. The draft report references this theoretical system as OSARIS—the Open Source Archival Information System—which became an ongoing topic of conversation between the groups throughout 2002. In November 2003, after performing a survey of existing Archival Management systems, the Committee on Information Technology released an updated report on the functional requirements for the OSARIS project, with the hopes of eventually supporting the development of such a system.

Without a clear source of funding however, the project stalled shortly after that until in 2005, UNESCO provided the ICA with a grant to support the creation of an Online Guide to Archival Sources Related to Human Rights Violations. The ICA and UNESCO decided to use this project as an opportunity to move the OSARIS project forward, and create an open source, web-based application for description and access that would support the ICA standards. In late 2005, Peter Van Garderen of Artefactual Systems was hired to implement this vision. After a thorough technical requirements analysis process, the very first alpha versions of the application were made in late 2006.

There was great interest in the prototype, and a desire to prepare a 1.0 version of the application in time for release at the 2008 ICA conference in Kuala Lumpur, but more resources were required to carry the project forward. Fortunately, institutions such as The Hogeschool Van Amsterdam Archiefschool, Direction des Archives de France, the World Bank Group Archives, and the United Arab Emirates Centre for Documentation and Research all made contributions that allowed the project to continue.
AtoM’s Development

- 2013: ICA AtoM
- 2014: atom

- 2.0
- 2.1
- 2.2
- 2.3
- 2.4

- 2019: AtoM 2.4

- Full bulk import / export via the user interface
- Search index improvements
- Authority records and repositories on the Clipboard
Non-backwards compatible changes in dependencies...

**Symfony**
- PHP Framework
- Version used in AtoM: 1.4 (deprecated in 2012)
- Current Symfony version: 4.1

**Elasticsearch**
- Search index
- Version used in AtoM: 5.2 (deprecated in Jan 2017)
- Current ES version: 6.2.4
And Major Changes Coming in our International Standards...
Provide an opportunity for AtoM’s evolution
The Open Source Ecosystem

- Funding agencies
- Developers
- Users
- Non-profit organizations
- Private companies
- Leading implementers
- Standards organizations
The Open Source Ecosystem

Standards organizations

How does the creation or modification of standards relate to the development of open-source tools? Should standards be created with software development in mind?

Funding Agencies

Funding agencies play a key role in open-source software development, but what is their role once the tools have been developed?
The Open Source Ecosystem

Developers work for non-profit organizations or private companies. They may also work for leading implementers, or simply be technically-minded users.

Leading implementers are institutions that provide community support, funding and/or development. These tend to be universities and research institutions.

Having a large pool of users is a sign of software maturity and stability.
The Open Source Ecosystem

Non-profit organizations

Private companies

These organizations provide sustainability for mature open-source software tools by offering software development and release management, hosting, tech support, data migration, training, consulting, documentation, user forums and other critical services. However, finding a viable business model can be a challenge.
Open-source Business Models

When grant funding ends or doesn’t cover all costs, there are different ways of making open-source software viable and self-sustaining. Here are three common models:

• Membership model
• Bounty development model
• Services model
Membership Model

The software is free and open-source but purchase of a membership allows users to gain access to certain privileges or services. Some membership models mean that only members get access to certain types of documentation, training materials, issue reporting systems and/or member-only user forums. Other membership models provide privileges such as a role in governance, discounts on training and meeting events, but don’t restrict documentation etc. Examples:

- Lyrasis (ArchivesSpace, CollectionSpace)
- BitCurator Consortium
- DuraSpace (DSpace, Archivematica, DuraCloud, Fedora)
- Islandora Foundation
- Open Preservation Foundation (JHOVE, Jpylyzer, FIDO, xcorrSound)

The money raised is used to support continued development and software release management.
Bounty Development Model

The software is free and open-source but development of new features and enhancements depends on one or more institutions providing funding. The new features and enhancements are added to subsequent public releases of the software. Sometimes called “Professional Open Source.” Examples:

- Artefactual Systems (Archivematica, AtoM)
- Data Curation Experts (Hydra, Blacklight, Fedora)
- DiscoveryGarden (Islandora)
- Hudson Molonglo (ArchivesSpace)
Services Model

The software is free and open-source, but there are organizations that provide related services such as hosting, technical support, data migration, consulting, training and customization. These organizations may or may not be the lead developers of the tools. Examples:

- Artefactual Systems (Archivematica, AtoM)
- DuraSpace (DSpace, Archivematica, DuraCloud, Fedora)
- DiscoveryGarden (Islandora)
- Cottage Labs (Hydra, Fedora)
- AVPreserve (Archival Management System, Exactly, Fixity + other tools)
- KEEP Solutions (RODA, DSpace + other tools)
Other Open-source models

Franchising model:
The software is free and open-source, but the name and logo(s) are proprietary and can only be used with permission. The owners of the name and logo(s) sell the rights to organizations to provide technical support, hosting and customization services.

Proprietary add-on / “freemium” model:
The software is free and open-source, but organizations develop proprietary add-ons or plugins or have “enterprise” or “professional” versions that add more functionality or scalability.
Open Source Governance

How does the project decide:

- What’s included in the core application?
- What’s included in each release?
- What bugs and features get prioritized?
- What direction should the project take in the future?
- Who gets to commit code to the project?
- Who defines the license of the project? What license should be used?
- Who maintains the documentation? What about other resources? Forums, webinars, etc.?
- Where funding will come from?
- How community involvement and investment will be maintained and grown over time?
- How will conflicts between community members be managed? What about between maintainers/founders?
Open Source Governance

Benevolent Dictators

• Project leadership by one person or a small, closed core (often the original author[s] of the project) who make all final decisions

Broader software development examples:

• Linux (Linus Torvalds)
• Python (Guido van Rossum)

Cultural heritage examples:

• EADitor and xEAC (Ethan Gruber)
• ...AtoM and Archivematica? (Artefactual) 😐

https://commons.wikimedia.org/wiki/File:FAEF_Boardroom.jpg
Open Source Governance

**Meritocracies**
- Active project contributors are given a formal decision making role. Decisions are often made based on pure voting consensus, or else strong majority basis.

**Broader software development examples:**
- Apache Software Foundation

**Cultural heritage examples:**
- Samvera
Open Source, Foundations, and Non-Profits

- Provides structure and distance from project creators
- Enables governance to be formalized
- Ensures power doesn’t become too concentrated – leadership neutrality
- Can provide liability/risk management via ownership of license and IP
- Ensures no one company or developer pool is favored
- Can employ a membership-driven business model w/o conflicts of interest
- Can apply for grants, etc.
- Can be the organizational home for 1 or many projects

Broader software development examples:
- Apache Software Foundation
- Linux Foundation
- Free Software Foundation
- Document Foundation
- Eclipse Foundation
Open Source, Foundations, and Non-Profits

Cultural heritage examples:

- Lyrasis
  - ArchivesSpace
- DuraSpace
  - DSpace, Fedora
- Islandora Foundation
  - Islandora
- OPF (Open Preservation Foundation)
  - JHOVE, fido

Islandora Foundation governance structure

https://islandora.ca/if/
There are many more variations...

Almost as many as there are projects

So how will the AtoM project move forward?
Governance

Inaugural Board of Directors

- Creighton Barrett, Dalhousie University
- Heather Gordon, City of Vancouver Archives
- Paul Hebbard, Simon Fraser University
- Jeremy Heil, Queen’s University
- Tim Hutchinson, University of Saskatchewan
- Lara Wilson, University of Victoria

https://accesstomemoryfoundation.org