



**Samvera Community
Annual Report**

2017

samvera™

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from the community

2017 will be remembered as a significant year in the development of our community. We started the year as the Hydra Project with a governance structure largely defined in the founding Memorandum of Understanding, signed in 2012, and ended it as the Samvera Community with an improved governance structure under active discussion. On the technical side, we saw two major community software gems, Sufia and Curation Concerns, come together as Hyrax, and we saw some significant outputs from a number of our Working and Interest Groups. The community itself held a number of very productive meetings, not the least of which was our annual Connect conference, and it continues to thrive with three new Partners added to its ranks.

In 2015, the Partners agreed that we should attempt to trademark the Hydra name and logo. As we explained in last year's Annual Report, that proved not to be possible because of a prior claim to the name "Hydra". Rather than see this as a setback, we decided to view it as an opportunity to rebrand ourselves and to rethink and reinvigorate our community. Our mailing lists and Slack channels became the focus of extensive activity to find a new name for ourselves and eventually "Samvera" was chosen. Samvera is an Icelandic word expressing the idea of being together, fellowship or company.

The Partner meeting held at Stanford University in March discussed at length the rebranding and the potential re-envisioning process. It was decided that a Working Group should be formed to investigate a number of governance models which might improve the organization and sustainability of our shared work. Feedback on, and discussion of, this report resulted in the formation of a further Working Group to synthesize the report into a set of recommendations. At the end of 2017, that work is ongoing.

On the technical front, 2017 saw the bringing together of two of our major software gems, Sufia and Curation Concerns, into a new gem called Hyrax which contains functionality from both. In addition, another new gem, Valkyrie, has been developed which opens up a number of options for combining different types of back-end storage under a Samvera repository. Our developers held a number of face-to-face events to help facilitate these developments.

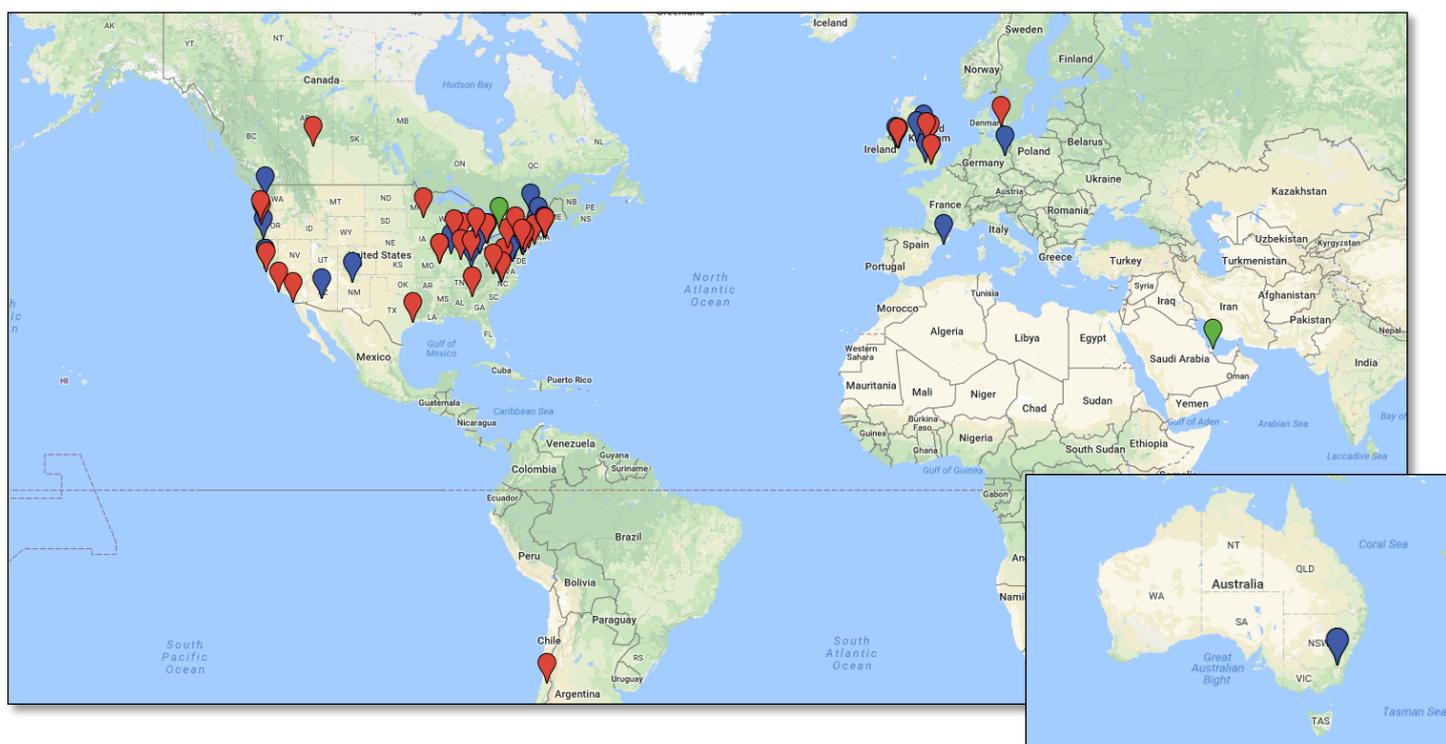


Sunrise over Lake Michigan—one of the side benefits for those who attended Connect 2017

Our Interest and Working Groups are the incubators for many new features and improvements to our software and to the way we deal with content. These continue to thrive and the list of such groups grows steadily.

Our community has always derived benefit from holding periodic face-to-face meetings and 2017 saw a number of these in addition to the uncounted internet-based conference calls held by our many and varied Groups. As well as two full Partner meetings, there were regional meetings on both coasts of the USA and also in Europe. Our Annual Connect meeting, this time jointly hosted by Northwestern University and the University of Michigan, was a great success. (So too was our second Virtual Connect - an on-line event that serves the dual purposes of an update to the community and providing a community-wide event for those who cannot make it to a Connect conference in person.) Throughout the year a number of training events were held in the USA and in Europe, including for the first time, a joint training week involving both Samvera and Fedora teams.

2018 looks set to be an equally busy year. We look forward to another two Partner meetings, to a virtual and to a face-to-face Connect (at the University of Utah), and to a number of regional and training meetings. In addition, our developers, Interest and Working Groups will be busy and the entire community will be involved in working towards a new governance structure. Many years ago we adopted the phrase, “if you want to go far, go together”. It still rings true!



Samvera's Partners (red), adopters (blue) and solution bundle users (green) - 2017

community & partners



In 2017 we welcomed three new institutions to formal Samvera Partnership: the University of California Santa Barbara, the University of Houston, and Emory University. At the end of the year we numbered 37 Partners.

- ◆ Boston Public Library
- ◆ Case Western Reserve University
- ◆ Columbia University
- ◆ Cornell University
- ◆ Data Curation Experts
- ◆ The Digital Public Library of America (DPLA)
- ◆ The Digital Repository of Ireland
- ◆ Duke University
- ◆ Duoc UC
- ◆ DuraSpace
- ◆ Emory University
- ◆ Indiana University
- ◆ Lafayette College
- ◆ The London School of Economics and Political Science (LSE)
- ◆ Northwestern University
- ◆ Oregon State University
- ◆ Penn State University
- ◆ Princeton University
- ◆ The Rock and Roll Hall of Fame and Museum
- ◆ The Royal Library of Denmark
- ◆ Stanford University
- ◆ Tufts University
- ◆ University of Alberta
- ◆ University of California Santa Barbara
- ◆ University of California San Diego
- ◆ University of Cincinnati
- ◆ University of Houston
- ◆ University of Hull
- ◆ University of Michigan
- ◆ University of Notre Dame
- ◆ University of Oregon
- ◆ University of Virginia
- ◆ University of York
- ◆ Virginia Tech
- ◆ Washington University in St Louis (WUSTL)
- ◆ WGBH, Boston
- ◆ Yale University

We are grateful for the many kinds of support that we get, not only from our formal Partners and their staffs, but also from many other organizations in our community. At the time of this Report we held contributor license agreements for more than 70 organizations and some 300 individuals.

partner profiles: cincinnati

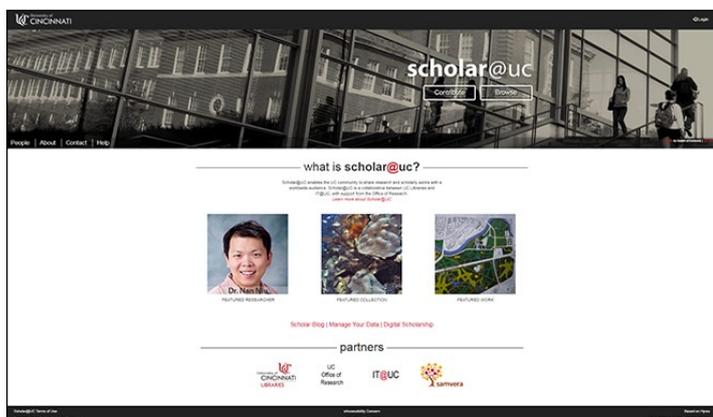
The University of Cincinnati began working with the Samvera community in 2013 and successfully brought the Curate platform into production in September, 2015 as our first institutional repository (IR). At that time, the University of Cincinnati Libraries already had a significant record of digitizing and making available online cultural heritage content, but had not yet promoted to our faculty the concept of an IR containing their scholarly and research output. Curate was a collaboration of Notre Dame, Northwestern University, Indiana University, the University of Virginia, and the University of Cincinnati.

In November of 2017 we successfully migrated this production system from the Curate / Fedora 3 platform to the Hyrax 1.x / Fedora 4 platform. The Hyrax front-end based on the Samvera framework (<https://github.com/samvera/hyrax>) is supported by a wide array of Samvera institutions. Cincinnati's migration was both a code and a content migration. We accrued benefits by having our application based on a newer and more widely-used implementation of the Samvera framework. The migration also allowed us to present new functionality to our users. This repository is Scholar@UC at <https://scholar.uc.edu>.



The Walter C Langsam Library at the University of Cincinnati

Next for Cincinnati is to upgrade our Samvera environment to support multiple Hyrax ingestion interfaces, distinguishing ingest and publishing mechanisms for self-deposited IR content from curator-driven cultural heritage content. The latest version of Hyrax, with its enhanced support for collections, workflow and administrative parameters, is a critical component of this effort. This will allow us to continue to support our IR content while also moving our growing cultural heritage content out of legacy repositories and into the Samvera repository.



Cincinnati's Scholar@UC repository

Our small team of developers could not have been successful without the strength of the Samvera community. It was that community strength that first drew us to Samvera, as well as the commitment to transparency, a code of conduct, and open source development. The Hyrax code will not stay stagnant, and this presents challenges for keeping up and balancing local effort with community effort -- yet we still could not deliver as much functionality, and be looking forward to exciting possibilities for research data integrations, if we weren't part of a shared, international project.

partner profiles:



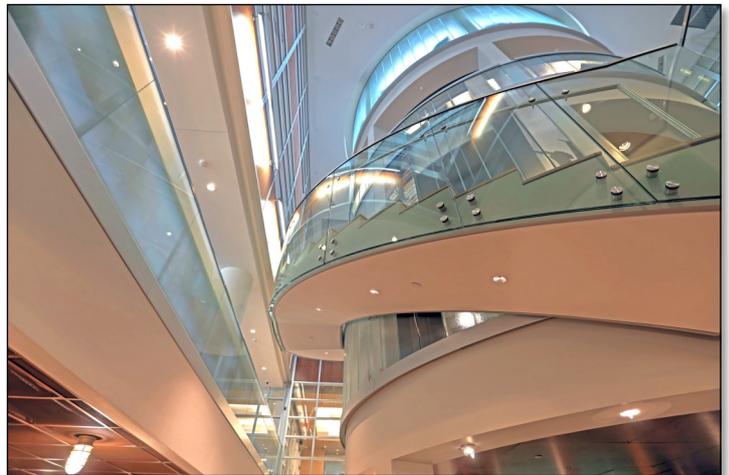
washington university in st louis

The Washington University in St. Louis Libraries maintained an instance of Fedora for management of digital assets for a number of years, but the lack of a native interface limited its functionality. The development of the Hydra framework addressed a key issue for us, but it wasn't until our existing platform for digital humanities content delivery was no longer supported, that we decided to move to Samvera. In 2015 we began an engagement with DCE to build a customized repository based on Curation Concerns, as a platform especially for our TEI/XML digital projects. Local staff also implemented Avalon for streaming video. With this infrastructure in place, Washington University in St. Louis Libraries became a Samvera Partner in 2016. Our collections on Samvera are at the Digital Gateway <https://library.wustl.edu/units/digital/digital-collections/> (see below).

Our path to Samvera adoption and partnership probably differs somewhat from others'. The Libraries historically lacked local staff and adequate funding in library technology to implement open source solutions or



The WUSTL Libraries' Digital Gateway



The Newman Tower of Collections and Exploration at the Washington University in St. Louis

contribute to their development. We became Samvera Partners in the hope that engagement with the community would help transform our organization into one not only capable of sustaining a robust repository but of collaborating with other Samvera Partners and working locally as the community does collectively. With a new University Librarian committed to the development of the Libraries' repository and to Samvera, and the recent hire of two developers, that hope is being realized.

We are currently at work on a small project to improve functionality of our "Goldenseal" repository, and will be implementing Hyrax with the aim of migrating institutional repository materials such as ETDs to it in the next year. Our GIS area also has been working on a Geoblacklight implementation, and the next step will be to integrate functionality across our Samvera applications.

finance & expenditure

The Samvera Steering Group, which has a specific responsibility for stewardship and central administration, has maintained its pattern of monthly meetings online supplemented by a smaller number of face to face meetings, usually held alongside other community events.

The Steering Group manages Samvera’s financial and legal affairs through a Memorandum of Understanding (MoU) with our fiscal sponsor, DuraSpace. This arrangement was continued in 2017 during which time we worked with DuraSpace to align our financial years in order to improve the effectiveness of the collaboration. A revised MoU reflecting this change took effect on 1st April covering the nine months to 31st December 2017; payment for services during the January to March period were covered by the previous agreement. The 2018 MoU will cover a complete calendar year. A summary financial report for 2017 can be found on the next page.

As noted elsewhere, during the first five months of 2017 a great deal of work went into rebranding the community as Samvera. As part of the work on rebranding and trademarking, contingency funds were set aside to cover possible costs and, in addition, we were cautious about other expenditure. In the event, the costs were significantly lower than we had anticipated and so our expenditure for 2017 is similarly relatively low. We are grateful to more than 20 of our Partners who, between them, contributed substantially to our funds with the result that at the end of 2017 Samvera has a healthy cash balance of just more than \$100k.

We are also grateful to the many Partners and others who contributed significant amounts of staff time and other resources “in kind” to progressing the work of the Samvera Community.

As at December 2017 we are in the final stages of registering the Samvera name as a trademark in the US and work is ongoing to register it in Canada and Europe. We are also working to trademark our new logo in those same three jurisdictions.



Participants in February’s West Coast Regional Group meeting (see page 13)

Accounts

1st January 2017 — 31 December 2017

	Income (\$)	Expenditure (\$)
2016 outstanding invoices paid	6,045	
2016 book-keeping correction	587	
Fundraising and donations	77,301	
DuraSpace affiliation fee*		2,250
DuraSpace fixed service costs (financial, accounting work etc)*		5,009
DuraSpace staff time		3,846
Contractors (website redesign)		450
Legal and IP services (mainly trademark work)		1,569
Website hosting and domain registrations		1,127
Bank charges and merchant fees		13
Total	83,933	14,264

* 9 months—see text

Net income from above	\$69,669
Less invoices outstanding	(\$4,000)
Cash balance forward from 2016	\$43,232
Cash balance 31 December 2017	\$108,901

progress on key initiatives



The new Samvera website home page

Rebranding

The early part of 2017 saw a lot of time devoted to rebranding. Initially, the most visible aspect of the work was the involvement of all the community in finding a new name. Lengthy exchanges on our email lists and Slack channels saw inventive minds come up with well over 100 possibilities (including probably every known mythical beast) and a vote was held to narrow these down to a smaller list. Eventually five names were shared with our attorneys so that they could advise on the likelihood of a successful trademark application and this work resulted in the choice of “Samvera”. With the name decided, there was then a lot of behind-the-scenes work to commission a new logo, purchase domain names, rename mailing lists, update the wiki and to update some of the community’s legal documentation.

Our website was already being redesigned when the decision to rebrand was taken. Once the new name and logo were decided the work was taken up again and the new site was ready for launch in June. The site is fully responsive, which is to say that its layout adapts to the type of device used for viewing it, and we have had it assessed to ensure that it meets relevant accessibility standards.

Officially, the site is at <https://samvera.org> (or just samvera.org) but a number of other “samvera” URLs find it too—amongst them .com, .net and .eu. One useful feature for those who sometimes have difficulty with the somewhat complex URL for the Samvera wiki is that samvera.org/wiki will now take you to its home page.

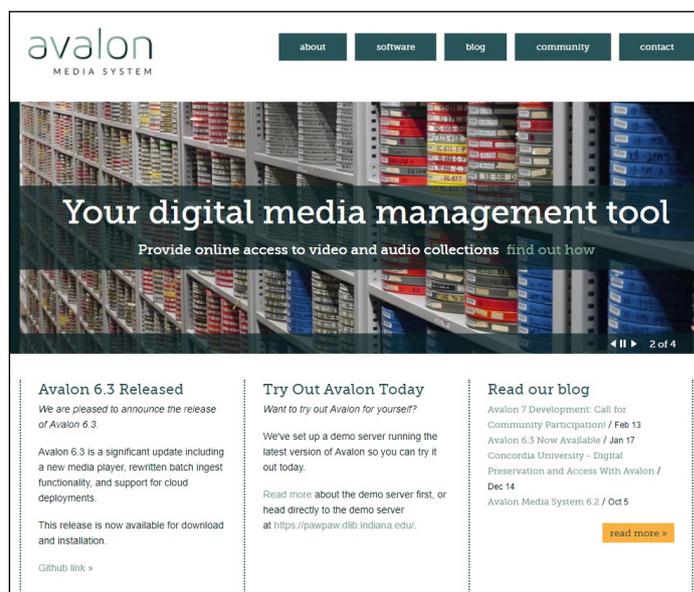
Governance

Alongside the rebranding work, Partners at their meeting in March decided that we should look to review the governance and structure of our community. A Working Group was formed which produced a lengthy report analysing a number of possible approaches and this was discussed by the community in the run-up to, and at, our annual Connect conference in early November. Following the conference, the Partners met, considered the document and the extensive feedback, and commissioned a second Working Group to synthesize it all into a set of specific

recommendations that could be voted on and, if approved, enacted. At the end of 2017 that work is ongoing with the intention that the recommendations will be shared with the community in March 2018, prior to a Partner meeting at the end of that month, and that a vote on them can take place shortly afterwards.

Avalon

Avalon Media System, the Samvera solution bundle for audio and video collections, experienced a year of growth and change in 2017 and into 2018. The joint teams at Northwestern and Indiana Universities completed development of version 6 (current release 6.3.2). In order to meet the needs of more than a dozen Avalon adopters, this version eliminates the need for Flash in all browsers, deploys in Amazon Web Services, and runs on Fedora 4. With support from the Andrew W. Mellon Foundation, WGBH is working with consultant AVP to build on Avalon to serve as the Archival Management System for the American Archive of Public Broadcasting. In addition, Avalon received support from the IMLS to ensure Avalon is sustainable as a product. IMLS-funded initiatives include hiring a Community Manager to further develop the Avalon Community, initiating a pilot of Avalon as Software as a Service with Lyrasis, and integration of Avalon with digital preservation and archival tools in partnership with Artefactual's Archivematica solution. With this work underway, the team also focused on the core goal of the grant as we began building a roadmap and started development on Avalon 7. This future release reimagines Avalon as a stand-alone, Hyrax-based solution bundle comprised of gems and components that can be used independently in both Hyrax and non-Hyrax Samvera installations. This work will ensure greater alignment with the Samvera community, enabling growth of the Avalon community of users and developers and for shared



Avalon has its own website at avalonmediasystem.org

development toward common enhancement of Hyrax and Avalon.

Hydra in a Box

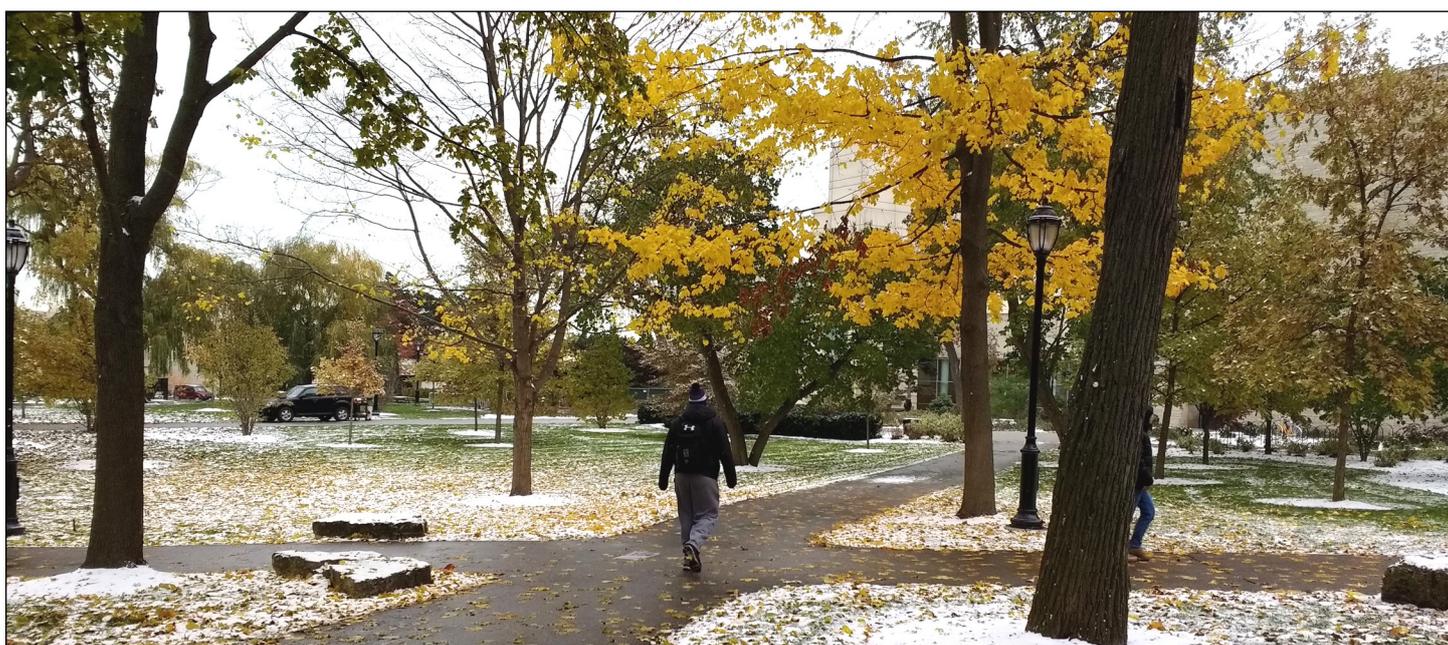
The Hydra-in-a-Box project, more informally known as “HyBox”, was a 30-month effort funded by the Institute of Museum and Library Services and co-led by Stanford University, the Digital Public Library of America (DPLA) and DuraSpace, to develop, bundle, and promote a Samvera-based digital repository that supports next-generation technologies and can be hosted in the cloud, lowering the bar to the adoption of community-source software and encouraging the proliferation of hosted services. In 2017, the project team intently focused on the beta release of Hyku (May 2017), a pilot of the hosted HykuDirect service (June-October 2017), and sustained work throughout the year by a cross-community team to develop new interface designs and software features for Hyku and its core component Hyrax.

Hyrax

There has been a lot of activity in Hyrax over the past year, both in terms of releases and software development, but also in terms of community engagement and cooperation. 2017 saw a number of releases on the Hyrax 1.x series, including a number of bug fixes and the continuation of the merger of CurationConcerns and Sufia (now complete). This year also brought the release of Hyrax 2.0, which included a number of user interface improvements (such as the new Dashboard), language translations, embargo and lease management views, improved support for nested data structures and controlled vocabularies in metadata fields, and collection extensions. Through 2017, we have seen code contributions from more than 50 individuals across more than 1,300 commits, and contributions of design, requirements, code review, and planning from many, many more. We're looking forward to continued engagement with the community throughout 2018 as we move to make Hyrax a solution bundle that can act as a springboard for a variety of repository applications.

Valkyrie

This year a new gem, Valkyrie, was developed to enable Samvera repositories to use any combination of backends for metadata and binary storage they would like while still sharing code for front-end components and workflows. Currently the library supports storage of metadata in Solr, Fedora, In-Memory, and Postgresql as well as storing binary files on disk, in memory, and in Fedora. Three community sprints with representatives from seven different Samvera partners were undertaken with the final result being a release of v1.0.0 in early 2018, a full repository running in production using it at Princeton, and another underway at Penn State University. Participating partners have had good experiences with implementing the gem in place of ActiveFedora so far, have enjoyed working on the gem itself, and significant community contributions have gone towards using it in an upcoming Hyrax release (3.0).



Fall colors and the winter's first snow at Northwestern University after the November Partners' meeting

past and future

training & events

Despite its geographical spread, Samvera is a very active community, not only on-line, but also in terms of face-to-face meetings. 2017 saw a number of significant training events take place involving members of the Samvera Community.

January

Sandi Metz Practical Object Oriented Programming - community camp, UC San Diego

UC San Diego and Data Curation Experts co-sponsored a course led by well known Object Oriented proponent Sandi Metz. DCE and UCSD partnered up to bring Sandi to San Diego in January of 2017 to allow smaller institutions within the community an easier way to expose their developers to this fantastic content and instructor.

February

West Coast Regional Group meeting, UC Santa Cruz

More than 20 participants discussed matters ranging from metadata workflows and linked data to Hydra-in-a-Box and Hyrax.

March

Hydra Partners' meeting, Stanford

Almost 30 people gathered for this two-day meeting. Discussions ranged widely but much of the time was spent discussing the rebranding and re-visioning of our community. It was this meeting that sparked off the detailed discussions about a new governance structure.

Developer congress, Stanford

Over 30 developers representing 13 partner institutions convened in-person at Stanford in March 2017 to move various community initiatives forward. Topics discussed included Hyrax workflow implementation, updating the

browse-everything gem base to handle an updated DropBox API, integrating Avalon-style encoding in other applications, and the launch of a new Documentation Working Group which has since produced <https://samvera.github.io>.

Hydra European Group meeting, London

More than 20 people from the UK and Ireland, Partners, adopters and would-be adopters, met to catch up on each others' projects and to discuss Hydra's rebranding.

April

Hydra Camp, Emory University

Emory University hosted 12 participants and two instructors for a four-day camp designed to bootstrap new developers and help get them up and running with Hydra/Samvera. The course was the first to focus on the newly released Hyrax application stack. Topics covered



Participants and instructors at the Hydra Camp at Emory University



The first Advanced Hydra Camp in Minneapolis

metadata, background jobs, workflow and notifications, UI customization, along with an overview of how Samvera interacts with Solr, Fedora, and Blacklight to provide a complete repository framework.

May

Advanced Hydra Camp, Minneapolis

The first ever Advanced Camp was held during May in Minneapolis. The instructors covered topics designed to bring seasoned Hydra developers up-to-date on the latest developments in community codebases and technologies.

Northeastern US Group meeting, Boston

Northeastern University was the venue for this meeting which had a wide-ranging agenda.

July

Samvera Virtual Connect

Clearly not a face-to-face meeting, but we couldn't leave it out! This was the second Virtual Connect, building on the success of the first in the previous year. Well over 100 people joined the on-line event to be updated on many initiatives within the community through a mix of 25-minute and 10-minute presentations.

Samvera European Group meeting, London

Another chance for Partners, adopters and would-be adopters to gather at the LSE in London and to compare notes.

August

Developer congress, Michigan

This event focused on developing some specific ("Collection Extensions") functionality for inclusion in the Hyrax software gem.

September

Joint Samvera and Fedora camp, Oxford, UK

Oxford University Libraries hosted participants from 12 different European and UK institutions including representatives from Jisc and CoSector, at the University of London, in the first ever combined Fedora and Samvera camp. In this first-of-its-kind class, participants had access to deep expertise in both Fedora and Samvera. The first three days were spent on joint exercises and discussions. On the final day, attendees and instructors divided up into small groups and pursued deep-dive technical topics surfaced from attendee interest areas and discussions earlier in the week. Both attendees and facilitators were



Participants and instructors at September's joint camp in Oxford

highly enthusiastic about the outcomes of the camp and we are hoping to arrange similar events going forward.

November

Samvera Connect 2017, hosted by Northwestern University and the University of Michigan, Evanston, IL

Samvera Connect brought together almost 200 people at Northwestern University in Evanston, IL. Hosted by Northwestern and the University of Michigan, this was the year's major event for our community. Connect combines workshops, presentations and unconference sessions to cover a broad spread of topics of interest with something to interest all in the community.

Samvera Partners' meeting, Northwestern University

Connect was followed immediately by a Partner meeting at which the main topic of conversation was the work done by the Governance Working Group to explore a possible new community structure for Samvera. The meeting resulted in a follow-on Working Group being chartered to formulate specific recommendations that Partners might adopt.

December

Samvera European Group meeting, London

The European group's final meeting of the year was largely given over to reports back from the recent Connect conference and to discussing some current initiatives in the UK (including the Jisc Research Data Shared Service in which Samvera plays a significant role).

2018 (provisional)

January

Steering Group winter retreat, Stanford

March

West Coast Regional Group meeting, Fresno

Samvera Partners' meeting, Stanford

April

Samvera Camp, OHSU, Portland

Samvera European Group meeting, London

May

Advanced Samvera Camp – Minneapolis, DCE

July

Samvera Virtual Connect

September

Introductory Samvera Camp – Durham, Duke University

Samvera European Group meeting, London

October

Sandi Metz – Practical Object-Oriented Design Level 2 – Durham

Samvera Partners' meeting, University of Utah

Samvera Connect 2018, University of Utah

November

Joint Samvera and Fedora camp, tbd Germany

December

Samvera European Group meeting, London

2019 (provisional)

Fall

Samvera Connect 2019, Washington University in St Louis

contributors & acknowledgements



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Images

Sunrise over Lake Michigan—Carolyn Ann Cole

The Walter C Langsam Library— Dottie Stover/University of Cincinnati Rights: [CC BY-NC-ND 4.0](#)

The Newman Tower of Collections and Exploration—James Byard/Washington University in St Louis

Participants in February's West Coast Regional Group meeting— Samvera wiki, unattributed

Fall colors and the winter's first snow—Richard Green

Hydra Camp at Emory—Emily Porter

Advanced Camp in Minneapolis—Mark Bussey

Joint Samvera and Fedora Camp in Oxford—Mark Bussey

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The Samvera logo is the subject of Trade Mark applications in the USA, Canada and the European Union.