



CC-PLUS: Beyond the Danger Zone

LYRASIS Catalyst Fund 2022 Final Report

Project abstract


CC-PLUS, Consortia Collaborating on a Platform for Library Usage Statistics, is open source software designed to automate monthly harvesting of COUNTER 5 library usage statistics using [NISO's SUSHI protocol](#). The project had its origins in 2014 in the International Consortium of Library Consortia.

Original development, made possible by IMLS grant funds (2017-2021), was led by PALCI and partners. Further development took place in 2022-2023 when KYVL was awarded a LYRASIS Catalyst Fund grant. Active development resumed in February 2024 with funds committed by KYVL.

The goals of the KYVL Catalyst Fund project were to (1) deliver a working implementation of CC-PLUS software in a large consortial setting, and (2) develop an implementation toolkit and user documentation, paving the way for use by libraries and consortia worldwide.

This report details the successes and challenges, progress and detours the project met with during the grant period, and ongoing work that would not have taken place in the absence of Catalyst Grant funds.

Acknowledgement, copyright, contact and citation Information

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Project goals, activities, timeline and budget

The goals of the KYVL Catalyst Fund project were to (1) deliver a working implementation of CC-PLUS software in a large consortial setting, and (2) develop an implementation toolkit and user documentation, paving the way for use by libraries and consortia worldwide.

KYVL took part in phase 2 of the pilot of PALCI and partners' IMLS CC-PLUS development grant and, following the end of the grant period, KYVL became the first production installation of CC-PLUS. However, KYVL quickly discovered that the [first stable release, published to GitHub](#) in October, 2021, was not fully functional. KYVL applied for LYRASIS Catalyst Funds to pursue bug fixes as well as more granular permissions, improvements to functionality and improved installation and user documentation.

Specific activities outlined in the grant application included:

- Development of CC-PLUS to include fixing bugs, improving usability and functionality, including user permissions designed to meet consortial needs.
- Consortial harvesting from four major e-resource platforms to demonstrate functionality.
- Pilot with KYVL member libraries and sub-consortia, with the ability to add additional vendors.
- Development of implementation toolkit and documentation to include installation script for Ubuntu and Red Hat (Fedora) Linux distributions and user documentation.

The proposed timeline was as follows:

- Bug fixes, improvement to import workflow – July
- Roles and permissions enhancements – August / September
- Retrospective consortial harvesting, KYVL member pilot – beginning in October
- UI enhancements – October / November
- Preparation of installation and user documentation – December
- Community-led enhancements and development – January / February and beyond.

The total budget of \$23,808 originally comprised the following:

- \$ 18,000 – development time, document preparation
- \$ 4,500 – project facilitator
- \$ 1,200 – travel to LYRASIS Member Summit
- \$ 108 – UserSnap subscription

KYVL was able to contract with Scott Ross, CC-PLUS’s original author and developer, for continued development of CC-PLUS under KYVL’s Catalyst Fund grant.

Process

The determination was made early to isolate KYVL changes to a separate [KYVL_Catalyst_Dev](#) branch within the GitHub CC-PLUS repository to minimize any impact changes might have on other users prior to the establishment / renewal of a CC-PLUS community.

The project initially proceeded according to plan, with the caveat that KYVL was unable to fill the project facilitator position as planned, so that those funds were ultimately approved for additional development time; in the absence of an opportunity to present in-person at a LYRASIS Member Summit, travel funds were also reallocated for development.

Bug fixes were quickly followed by new enhancement ideas, which in some cases introduced new bugs and the cycle continued. Improvements to the user interface were significant and ongoing, but the continued pace of development, with attendant introduction of bugs, meant that the software was perpetually “almost ready” for use, making it difficult to reach a fixed point at which it was possible to assemble a KYVL user community. The discipline that a project facilitator would have brought to this cycle might have slowed the pace of development but might also have reaped benefits with regard to building community around the software.

Accomplishments

KYVL successfully addressed the initially identified bugs along with numerous user interface improvements. Introduction of a new Global permissions tier is perhaps the most significant and far-reaching change, and made it possible for KYVL to enlist a member institution in a collaboration that moved CC-PLUS far beyond the proposed harvest of four consortial vendors.

The Global Admin role grew out of the recognition of the truly global nature of COUNTER harvesting from a given SUSHI-complaint provider. While various organizations have set out to compile this information, the authority for such vendors is the [COUNTER registry](#). Upon learning that COUNTER has an API, KYVL quickly incorporated this into a single authoritative listing of Global Providers available to all consortia and institutions within any CC-PLUS installation.

Each Global Provider is preset with:

- A SUSHI URL endpoint
- Definition of required credentials, usually one or more of:
 - Customer ID
 - Requestor ID
 - API Key
- Defined available reports, which may be some or all of:
 - Platform report
 - Database report
 - Title report
 - Item report

KYVL was able to work with vendors to get the needed credentials for each consortial institution for each consortium-wide provider. However, ingest of Global Providers meant that KYVL was able to easily set up harvests for dozens of additional providers for other member institutions. In addition to the four vendors KYVL initially planned to harvest from, KYVL partnered with Eastern Kentucky University (EKU). EKU shared credentials for its full complement of SUSHI providers, and now harvests successfully from more than 40 providers using CC-PLUS.

The transformative nature of ingesting providers using the COUNTER Registry API has led CC-PLUS developer Scott Ross to call it “a power tool” for CC-PLUS administrators.

Other major accomplishments center around the ability to test institutional credentials on the fly; contextual filtering of institutions, providers, harvest dates, etc.; and vastly improved error messaging for unsuccessful harvests, opening up a path to resolving the errors. These last enhancements have come about after the initial grant period, as explained under *lessons learned*, below.

Lessons learned

Lessons learned have been touched on already and are synthesized here.

- The opportunity to work directly with the developer to guide UI changes and enhancements made it difficult to draw the line between creating a workable product and continuing to pursue an improved user experience. A project facilitator might have proved helpful in identifying targets that would have enabled KYVL to build a user community around the project sooner.
- Partnerships are key. Reaching out directly to Project COUNTER regarding provider definitions resulted in a game-changing development in the software, removing the need for each consortium and institution to recreate separate provider definitions. Partnering with our own member institution allowed us to test a much larger number of providers than would have otherwise been possible.
- KYVL recognized early in the grant process that more work would be needed following the end of the 2022 grant to both enhance and extend CC-PLUS and even to make CC-PLUS viable. KYVL's application for a 2023 Catalyst Fund grant was not funded. However, KYVL determined to allocate local funds toward continuation of the work.
- Reviewer comments shared following rejection of the 2023 grant application helped KYVL recognize a failure to adequately communicate progress regarding improvements to the software. The strategy of maintaining a separate [KYVL Catalyst Dev](#) branch was not clearly understood by at least one reviewer, who observed that "The website indicates the project was completed in 2021 and is no longer being updated, and most of the Github material has not been updated for between 2 and 4 years."

What's next?

Since KYVL's 2022 grant application, the COUNTER Registry has grown to more than 300 active providers, and KYVL is continuing to expand CC-PLUS's ability to harvest successfully.

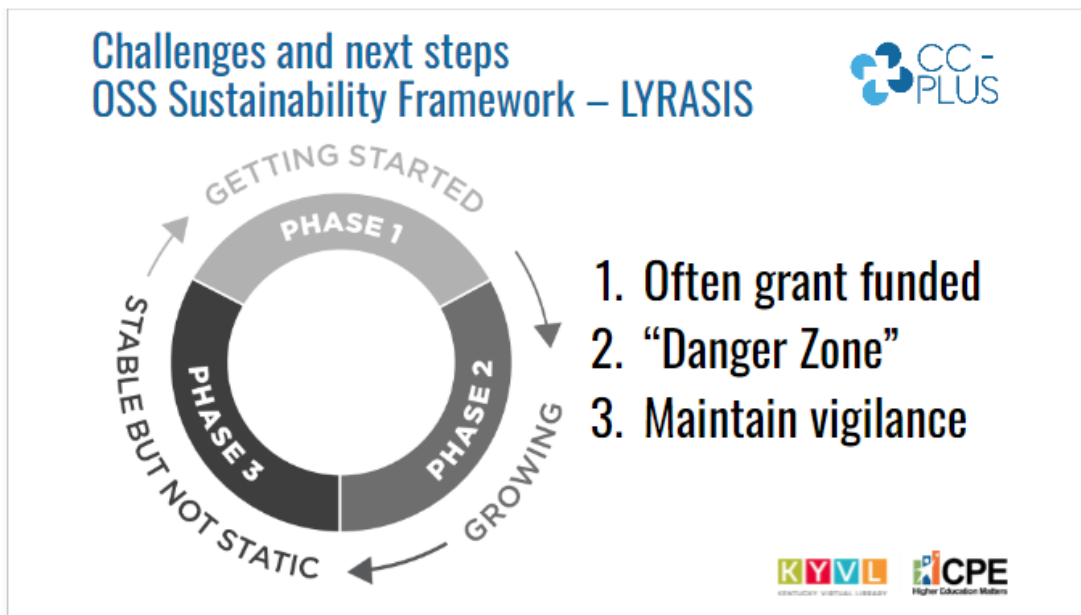
KYVL's contract with CC-PLUS developer Scott Ross became active again February 1, 2024, and is currently set to remain open through June 2024. During this window, KYVL, Scott and our institutional partner have continued to collaborate. We identified the March 2024 ER&L Conference, the first iteration of this conference

since the completion of our grant 2022 Catalyst Fund grant period, as an excellent venue to reach an audience of potential CC-PLUS users. Ilona Burdette, KYVL; CC-PLUS developer Scott Ross; and Jens Arneson, Eastern Kentucky University Libraries Associate University Librarian, collaborated on the following session which was presented virtually, on-demand:

Automated COUNTER5 Harvesting with CC-PLUS

CC-PLUS open-source software enables institutions and consortia to automate harvesting and reporting of COUNTER5 usage data from some 300 providers. Originally developed by PALCI with IMLS funds, KYVL received a LYRASIS Catalyst Fund grant to continue development, including simplified installation and UX enhancements. Join consortial and institutional representatives and software author and developer Scott Ross for a demo and documentation.

As the following slides and narration show, the presentation featured the ITAV Open Source Software Sustainability framework from LYRASIS.



For challenges and next steps, I’ll be making use of the ITAV Open Source Software Sustainability framework from LYRASIS. The guidebook is linked in session resources.

The framework divides Open Source Software development into three phases:

1. *Phase 1, Getting Started, which covers early planning and design, and is often grant funded.*
2. *Phase 2, Growing, a potential danger zone where programs can stall or disappear if they fail to engage community members.*
3. *Phase 3, Stable but not Static, in which programs are better established and more mature, but which continue to require vigilance.*



These three phases characterize the overall project but also apply to individual facets of:

- *Governance*
- *Technology*
- *Resources and*
- *Community Engagement*

I won't take time for a complete analysis of where each facet of CC-PLUS falls with regard to each of the three phases, but will share thoughts on a couple of key points.

First, KYVL's Catalyst Fund grant undertook to move CC-PLUS beyond the danger zone. We didn't succeed but we haven't given up. Development is active at this time but to be sustainable, we need to grow the community around CC-PLUS. Today's session is part of an effort to build the community needed to keep CC-PLUS viable.

With that in mind, we'll conclude with what we hope could help expand the universe of CC-PLUS stakeholders.

In connection with the session, KYVL offered interested viewers an opportunity to [request a hosted trial](#) of CC-PLUS through June, 2024. The offer was also shared with the COUNTER community in the [March 2024 quarterly COUNTER newsletter](#). Each venue has thus far yielded one potential partner, a US-based academic library consortium and a European national library consortium.

[Kyvl.org/ccplus](#) features updated user and installation documentation, and includes a 30-minute step-by-step installation video based on the [copy-and-paste instructions available in GitHub](#) and additional updated documentation.

Due to the historical development of CC-PLUS with other lead institutions, the web contains documentation for previous iterations of CC-PLUS, and the [cc-plus.org](#) domain links to content that no longer reflects current CC-PLUS developments. KYVL has been in touch with earlier partners and will work with them on a coordinated strategy for future content.

How can LYRASIS membership and communities support and advance this work?

The COUNTER standard continues to develop, with version 5.1 announced for 2025. Developers, funders, and a community of institutional and consortial administrators and other stakeholders are needed for continued viability and to at last move CC-PLUS beyond the danger zone.

How can others find out more?

Resources appear throughout this document. Key resources include:

- Ilona Burdette, Ilona.burdette@ky.gov
- User and installation documentation: [kyvl.org/cc-plus](#)
- Request a hosted trial: [kyvl.libwizard.com/f/ccplus-trial](#)

LCSH

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