Commons Impact Metrics

Dchen (WMF), Design Research │ 2023
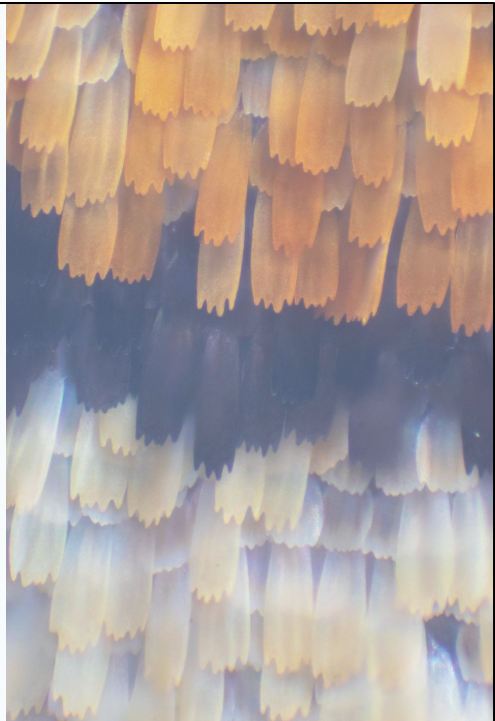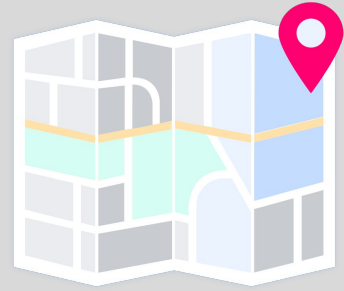
Background

Data/Tooling

Recommendations

The Foundation's Data Products team is working on a **data and metrics solution for Commons**, with a preliminary focus on GLAM use cases.

Why here? Why now?

1. **Unsystematic:** organizations and individual volunteers all contribute to the kaleidoscope of existing data/metrics tools

2. **Fragile:** existing data ecosystem is becoming increasingly tenuous, especially for affiliates and GLAMs/partner organizations' reporting needs

3. **Accountable**: though WMF support has been historically limited, providing metrics as data products will be a foundational step towards centralized support and reliability

Image: Lava meets Pacific

Project motivation

1. Address **outstanding metrics needs** in the community, particularly affiliates and GLAMs/partner organizations

2. **Provide a data solution** for metrics that is reliable, scalable, and accessible

Image: GLAM Wikimedia Icon and GLAM logo with cropping and merging

Research objectives

1. **Identify** key concerns that affiliates and GLAMs/partner organizations have in the metrics/data space.

2. **Understand** representatives' reactions to the proposed dataset.

Image: GLAM Wikimedia Icon and GLAM logo with cropping and merging

Research methodology

This project gathered findings from affiliates and GLAMs/
partner organization participants using the following method:

1. **60-90 minute qualitative interviews, with**
2. **16 organization representative participants, from**
3. **9 affiliates and GLAM organizations[1]**

Interviews guided participants through a semi-structured
narrative of their experiences exploring, aggregating and reporting
metrics, including practical and technical preferences/needs,
collaborators' needs, the evolution of the data tools ecosystem, and
other aspects. They were also asked specifically for feedback
regarding the dataset product.

1 -
Chapters: CZ (Czech Republic), IT (Italy), SE (Sweden)
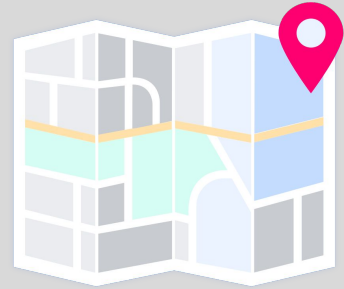Partner organizations: Smithsonian, Flickr, DPLA
User group: WMNO Brasil
Wiki Loves: Int'l organizing group, WLM Ukraine

Image: Wikipedia 20 "Community" icon

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Recommendations

Historical challenges

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[using the various tools] became a headache and a reputational risk

- Tools have been **plagued by bugs/outages** and lack of sustained maintenance and support
- The data underlying the tools are **inconsistently defined and measured**; overall, the accuracy and consistency are often in question, if they can even be acquired
- For individuals and organizations to effectively utilize the datasets/tools, the general **awareness of the ecosystem is too low** and specific **technical capability required is too high**

Many tools were built from scratch by various individuals and organizations.
The tools that did exist either didn't have the data desired for reporting purposes, or wasn't calculated correctly/consistently.
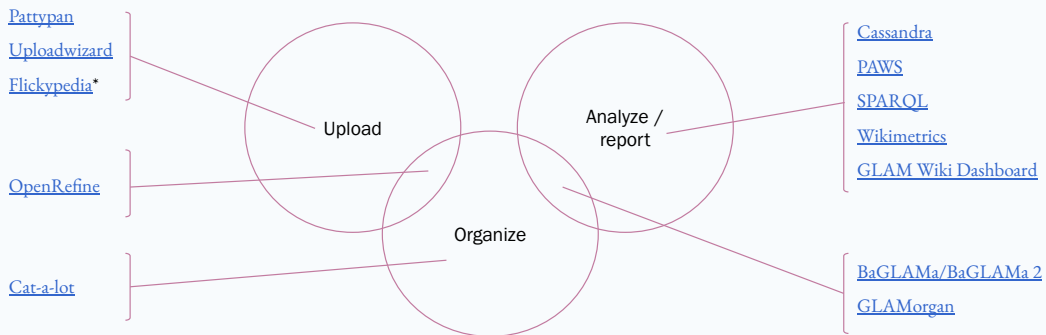
Project catalyst

Many reporting tools failed toward the end of 2022, causing a **huge disruption in many GLAM institutions' abilities to report on impact** in the form of metrics.

It was clear that this incident, in conjunction with the Foundation's Movement Strategy goals to provide knowledge as a service, meant that a first step needed to be undertaken to provide this vital community with a **reliable, centralized, accessible and scalable solution for Commons metrics.**

"

Metrics tools collapsed. Major GLAMs couldn't justify funding

Image: [Broken glass](); cropped to fit.

Current data and tools ecosystem
(GLAM affiliates, partner organizations)

Pattypan
Uploadwizard
Flickypedia*

OpenRefine

Cat-a-lot

Upload

Organize

Analyze / report

Cassandra
PAWS
SPARQL
Wikimetrics
GLAM Wiki Dashboard

BaGLAMa/BaGLAMa 2
GLAMorgan

Note: incomplete list; not all existing tools/gadgets/widgets/etc have been included. These are the ones most mentioned during the interviews conducted.

Upload: manually and/or batch moving files onto Commons
Organize: manually and/or batch adding/removing/editing file details/metadata/category/other
Analyze/report: querying, measuring, visualizing, manipulating file/category-related metrics

* Flickr to Commons pipeline only

Current data and tools ecosystem
(Wiki Loves)

Upload	Organize	Analyze / report	Jury

Uploadwizard (custom pre-filled)

n/a; custom upload link automatically appends competition and other relevant categories*

Wikiloves

Mapping tool from Wikimedia Italia

WLX Jury Tool

WLM International jury tool**

As displayed above, this overview is mostly different from the previous view; most tools from the GLAM context are mostly **not used nor meaningful in this event/competition context** despite some functional overlap. Competitions specifically also include an additional function, the **jury tool**.
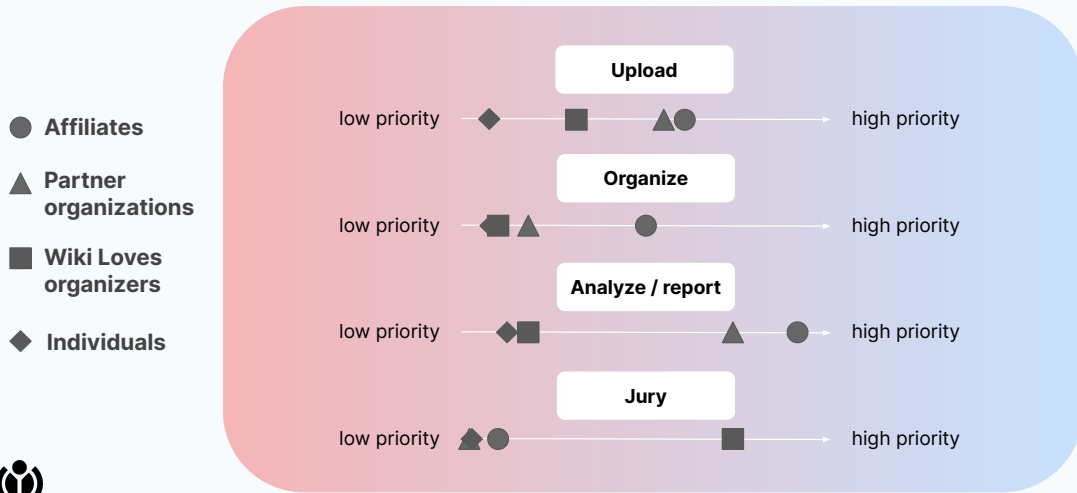
* editing/organizing of Commons files did not appear to be a main focus for organizers, but does not necessarily mean this action doesn't occur
** jury tool is not directly linked here

There is also a monuments database that is unmaintained, but would in theory support a similar function as the mapping tool listed above.

Primary user types and foci

● Affiliates

▲ Partner organizations

■ Wiki Loves organizers

◆ Individuals

Upload

low priority ◆ ■ ▲● high priority

Organize

low priority ◀■ ▲ ● high priority

Analyze / report

low priority ◆■ ▲ ● high priority

Jury

low priority ▲● ■ high priority

Approximated, based on participant sentiments about their focus and priority (based on multiple factors like how well does existing tooling meet needs, availability/accessibility/functionality of tooling, frequency in a specific issue arising, etc).

Primary user types
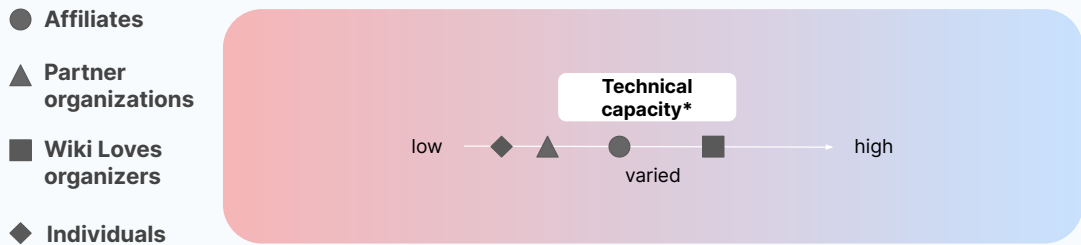
● Affiliates

▲ Partner organizations

■ Wiki Loves organizers

◆ Individuals

Technical capacity*

low   ◆ ▲ ● ■ →   high

varied

Approximated, based on participant sentiments about their focus and priority (based on multiple factors like how well does existing tooling meet needs, availability/accessibility/functionality of tooling, frequency in a specific issue arising, etc).

* measured with regard to both ability/skillset and also bandwidth for addressing technical issues/building out tooling, etc.

Note: some affiliates/partner organizations are larger and/or have more dedicated data analyst/developer staff than others.

Thoughts on the current data and tools ecosystem
(GLAM affiliates, partner organizations)

"

Weak

Not maintained

Buggy

Unreliable

Broken

Failed

Inaccurate

Not intuitive

Not scalable

Exhausted [from using]

Unknown processing time, if it processes

Beast even for technical folks

Etc.

Note: Participants from Wiki Loves organizers have limited interactions (maybe once or twice a year) with the GLAM universe of tools, and so their complaints on that front were smaller in magnitude and intensity. However, though their needs are not as wide for Commons metrics, most participants indicated a desire for greater reliability and access to metrics/tooling, and that improvements in tooling could easily lead to the discovery for the need of more complex metrics previously not thought of.

A note on the tools ecosystem

Though the current scope of this project is limited to metrics and the dataset product, the two other primary spheres of the data ecosystem (**uploading and organizing**) were mentioned with nearly equal emphasis and importance, as they are vital to successfully importing the content upon which the data/metrics is based.

A little later on in this deck, some **suggestions for further areas of exploration** are provided to inform the development process.

Image: PaintingGIF

What metrics should the data solution include?

1. Overall traffic
2. Uses on articles and related article pageview counts
3. Media file page views (and from where, if possible)
4. Most downloaded files
5. Clickthroughs on media file pages to partner org websites
6. Most viewed file from a particular time period
7. Most used file from a particular time period
8. User-specific activity metrics, engagement over time, and metrics around uploads from those users

Collected list of metrics specifically mentioned during the interviews; not an exhaustive list. Ultimately, requirements gathering is an ongoing, concurrent process and that is a better venue for being more thorough, so the interviews were facilitated to encourage the illustration of a wider ecosystem of needs around Commons metrics.

Image: GalleryGIF

How should the product be delivered?

Participants indicated that the data product should be delivered in a few ways, and with a few attributes:

Increasing complexity

1. **Standalone numbers and/or basic visuals**; some orgs have basic needs
2. **Spreadsheet/CSV**; flexible, doesn't require programming knowledge
3. **Data dumps (ideally monthly)**; good for big data snapshots
4. **API**; access to live data, allow for more technical experimentation
5. **Dashboard tool**; can potentially merge elements of the above in a one-tool-fits-most fashion

Image: GalleryGIF

What main attributes should the data solution reflect?

1. View/query more arbitrary category trees
2. Single/fewer API requests
3. At category level, monthly level granularity
4. Inclusion of all media types, not just of images
5. Scalability

Image: GalleryGIF

Background

Data/Tooling

Recommendations
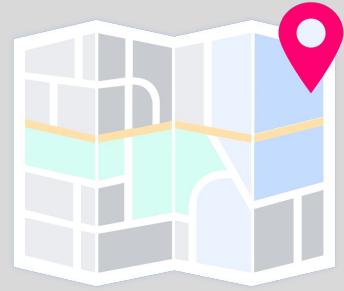
Current prototype

The current prototype consists of five datasets, containing one queryable Google spreadsheet for each dataset with example common use cases and visualizations.

At the GLAM Wiki Conference, a feedback [workshop](#) was held to **test this prototype and gather user feedback**; this will be an ongoing, collaborative process with community stakeholders.

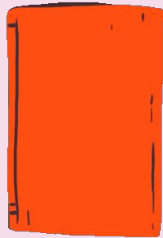Immediately actionable and/or currently in progress

Requirements gathering

Continue to communicate to affiliates, user groups and partner organizations that the team is continuing to **gather metrics requirements** (alongside user research and prototype testing) and invite them all to participate, ideally on an ongoing basis for iterative progress.
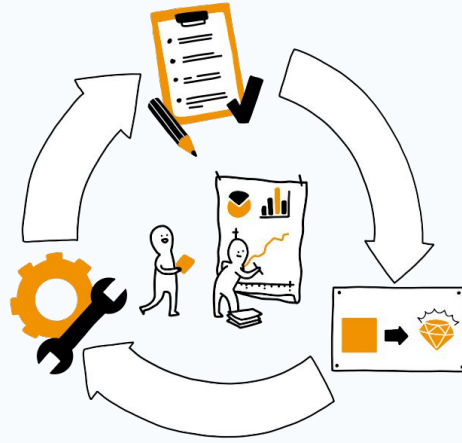
Immediately actionable and/or currently in progress

Organizational alignment

Provide a clear **mapping of available tooling**, attributing use cases, required technical knowledge, available metrics/features, linked documentation, and other elements for easier access and appraisal.

Establish a **glossary of metrics** provided with definitions for what each represents, and possibly also historical definitions (i.e. how the same metric was measured in the past).

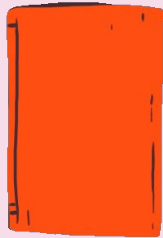Review tools for **consistency** (both in content and UI)
* content: pageviewinfo module only shows pageview data, not mediarequest data
* UI: tool links are scattered everywhere, and UI all look different

> *All the links to tools look different, like they might have a virus*

High priority interview findings organized by theme

Image: BookGIF

Reliability

Community members indicate that they've spent too much time and resources learning and/or helping build out functionality for tools, only to see support later vanishes – to remedy this, establish a clear **structure of which products are receiving/will receive Foundation support**.

To that end, provide a resource hub for the supported tools indicating **individuals/teams accountable** for responding to bug reports, feature requests, how requestors can track these, and establish protocols for updating this information at an interval.

High priority interview findings organized by theme
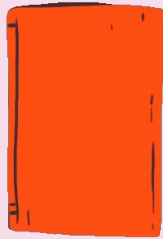
Image: BookGIF

Centralized communication
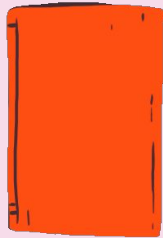
- **Collaboration**: continual communication of this project (and related research, requirements gathering, etc.) will increase stakeholder buy-in, involvement, and trust.

  - Clarify development roadmap for what the Foundation plans to support in this realm at each stage

  - Reduce diffuse communication and feedback channels to the essentials, and communicate these widely

- **Setting expectations**: communication about what metrics will be included in the core product at various stages

- **Notification**: remedy the status quo, where users learn of tooling bugs, outages, and ownership/support transfer/termination through direct discovery or the grapevine

High priority interview findings organized by theme

Image: BookGIF

Collaborative development

Address the issue of **governance** and how the project roadmap will involve community stakeholders, and in the meantime continue walking the talk of keeping this project an actively collaborative one.
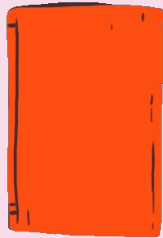
Establish **clear criteria and reasoning** for what the Foundation chooses to support (vs not), to build from scratch (vs to build upon existing tooling), etc.

Retain **historical context**, including data backlogs and existing/deprecated/inactive tools to access past metric definitions.

Keep community apprised of **when data structures may change**, as they may break tooling and collaboration efforts.

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focus on things only the Foundation can do, leave other things for volunteers as needed

[WMF] has a history of developing new things instead of fixing existing things

High priority interview findings organized by theme
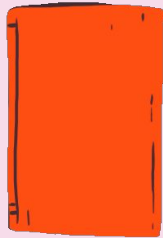
Image: BookGIF

The common denominator user persona

Provide intuitive and accessible Commons metrics requirements + visuals.

For some affiliates and larger partner organizations with more technical capability and capacity, provide additional options as needed for deeper exploration; though this appears to be slightly less high priority, this latter group typically supports partner organizations in retrieving metrics; should a better data product(s) be provided, many indicated that there may be many additional metrics and explorations organizations would want, of which they are currently unaware.

"

Largely non-technical

High priority interview findings organized by theme

Image: BookGIF

Long-term investment in tooling and infrastructure

Invest in tools with high utility, and commit to **building up a community practice in tooling and infrastructure** (good: stats.wikimedia.org promotion from individual project to official supported tool, Thumbor was updated after CEO's listening tour; bad: PAWS is useful, but deleted users' files without warning, Quarry doesn't include structured data, and SPARQL doesn't work).

Technical infrastructure is outdated; potentially foundational tools like GLAM Wiki Dashboard need to be able to **handle large capacities.**

"

Thumbor effort [was appreciated]

High priority interview findings organized by theme

Image: BookGIF
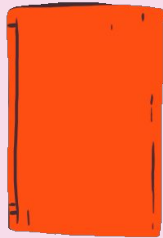
Programmatic and technical support funding

Whether the Foundation can commit to offering additional development and support to the Commons metric space, there will always be need for additional tools built on top for various use cases, so there is constantly a need for **technical volunteers and funding/grants** for same.

There is also need for **general support** with affiliates in particular managing partnerships with GLAMs and other organizations, as staffing capacity and bandwidth is typically limited.

High priority interview findings organized by theme

Image: [BookGIF](#)

Core product-adjacent

- **Increasing self-sufficiency**; create a self-service kit for for partner organization staff and those who want to organize a competition. This kit will allow users more autonomy in both uploading and receiving/gathering needed metrics, and increase bandwidth for the Foundation, affiliates and other support entities
- Provide **metrics for individuals**, useful primarily for individuals who upload significant files to Commons (via Flickr, for example)
- **Customizability and increased functionalities** on tools like the GLAM Wiki dashboard (currently limited to pre-structured displays): ability to modify/hide irrelevant elements, different custom views/layers for different user profiles or use cases, ability to download and manipulate data in the dashboard/visualizations.
 - **Increase processing capacity**; currently breaks down when handling larger quantities of content.
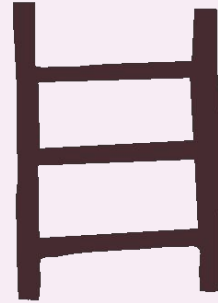
Medium priority interview findings (based on various factors including ease of achievement, potential impact, level of scope creep from core project scope, etc.)

Image: ArchiveGIF

Core product-adjacent

- Ability to analyze metrics via **templates** and add **SDC integration** in addition to categories and category trees for additional flexibility and for addressing category limitations.
- More **robust and reliable uploading/organization tooling**; uploading options are currently buggy, broken, and/or technically limited (e.g. UploadWizard has size constraints, timeout errors, etc.). Collaborate with or adopt relevant elements of UploadWizard, Pattypan, DPLA aggregator, Flickypedia-type tools to inform a better solution that can handle high capacities and smoothly attribute (and edit/organize) metadata.
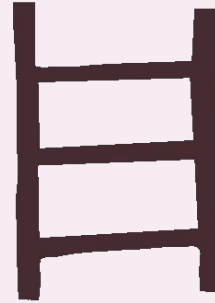
Medium priority interview findings (based on various factors including ease of achievement, potential impact, level of scope creep from core project scope, etc.)

Image: [ArchiveGIF](#)

Nice to have

Cross project data transparency, including metrics for Wikidata, Wikisource, and other sister projects (and Commons data on these projects)

Data roundtripping (organize/reuse functionality)would be welcomed and enrich content (although most entities do not have technical ability to receive this data at scale, nor magnitude of content)

Content mobility; understanding files' provenance, file activity while on-platform, and downstream file usage off-platform

Commons interface refresh; please see participant quotes →

"
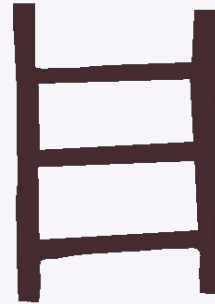
have you ever seen a site with as few multimedia as Commons?

it's not great UX

world's worst platform for exploring audio files
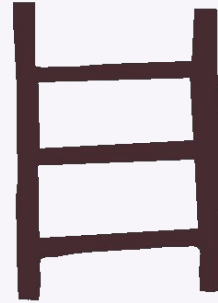
user interface is ugly

Low priority interview findings (based on various factors including ease of achievement, potential impact, level of scope creep from core project scope, etc.)

Image: ArchiveGIF

Nice to have

Wiki Loves competitions are a satellite/specialized set of needs around Commons, and also reflect some overlap in **use cases with affiliates and GLAMs who run events**. Below are some potential add-ons that will bring value for the competition-running and general events organizers:

- **Events-centric layer or separate tool cluster** for the competition/event use cases (photo contests, edit-a-thons, seminars, courses). Could allow organizers to prepare, monitor for outages during, assist with jury portion, and report post-event.
- **Metrics for individuals*** (who contribute large caches to photo contests, or add/edit files during edit-a-thons). Both for organizers to track activity and progress, but also for participants who have historically expressed interest in their own files' metrics.

Low priority interview findings (based on various factors including ease of achievement, potential impact, level of scope creep from core project scope, etc.)

* mentioned already on a previous slide, but providing more support in WL context

Image: ArchiveGIF

Thank you!

Check out the project page and implementation plan, and add any requirements to the GLAM metrics needs page.

Have more questions about this project?
- Follow #data-products, #commons-impact-metrics on Phabricator
- Contact Virginia Poundstone, Fiona Romeo, Benedict Udeh and Daisy Chen for more information.

Have design research questions/needs? Sign up for office hours!

Image: PaintingGIF