Unlocking the proprietary black box with open source solutions for scholarly infrastructure

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What do you mean?

Black box

From Wikipedia, the free encyclopedia

This article is about the abstract concept of black box systems. For black boxes in aircraft, see Flight recorder. For other uses, see Black box (disambiguation).

In science, computing, and engineering, a **black box** is a device, system or object which can be viewed in terms of its inputs and outputs (or **transfer characteristics**), without any knowledge of its internal workings. Its implementation is "opaque" (black). Almost anything might be referred to as a black box: a **transistor**, an **algorithm**, or the **human brain**.

To analyse something modelled as an **open system**, with a typical "black box approach", only the behavior of the stimulus/response will be accounted for, to infer the (unknown) box. The usual representation of this **black box system** is a **data flow diagram** centered in the box.

The opposite of a black box is a system where the inner components or logic are available for inspection, which is most commonly referred to as a **white box** (sometimes also known as a "clear box" or a "glass box"[1]).
Two things that are mostly true

1. Authors do not care about the technology of publishing software. They care about the experience.

2. Publishers benefit from network effects.
Why is this important?

“Everything we have gained by opening content and data will be under threat if we allow the enclosure of scholarly infrastructures.”

-Geoffrey Bilder, Jennifer Lin, Cameron Neylon

A healthy marketplace benefits from competition.

Why open source?

**PubSweet** and **Libero** bring together communities of like-minded publishers, presses, repositories, and developers.

Building as an open community, we:

- Control the development roadmap*
- Collaborate to distribute costs
- Benefit from shared expertise
- Reduce variation and complexity
- Improve interoperability
- Reuse what’s already there
- Sell services, not systems
Building an html-first, collaborative peer review process using Pubsweet.

Built a metadata review process for repository ingestion using Pubsweet.

Building a traditional, editor-led peer review workflow using Pubsweet.
Building a **single-journal** production dashboard, hosting, and reading platform using **Libero**.

Building a **multi-journal** production dashboard, hosting, and reading platform using **Libero**.
2020
Completing the end-to-end Phenom system.

2019
New Phenom family applications!

2018
We launched our review platform, Phenom Review.

2017
We started working with Pubsweet to build our Phenom family of software.

Our progress so far
How does the collaboration work?

- Non-profit governance
- Open roadmaps
- Inclusive community
- Sharing more than just code

Why does the collaboration work?

- We don’t compete on technology
- We all benefit from network effects
And in the future?

We plan to extend to other stages of the research process.

Create a network of service providers to help organizations implement the technology.

Package the platform for reuse.
Thank you!

Libero Codebase
https://github.com/libero/

Pubsweet Codebase
https://gitlab.coko.foundation