Building a Bridge Between Journal Articles & Research Data

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Motivation

Photo: [Jean Liu](https://example.com/jeanliu)
Quotes for “Why?”

"The most immediate of these obstacles is the lack of a consolidated infrastructure for the easy sharing of data" - JORD Project results via EDaWaX blog

"Any moves towards data sharing are dependent upon the cooperation of journals.”* – Sergiu Ghergina and Dr. Alexia Katsanidou

*from European Political Science 2013: Data Availability In Political Science Journals
A team was assembled...

2 year Sloan Foundation grant (2012-2014):

Public Knowledge Project (PKP)
- Simon Fraser University
- Stanford University (John Willinsky)

Dataverse Network Project
- Harvard University’s Institute for Quantitative Social Science (IQSS) (Gary King & Merce Crosas)
- Micah Altman – Director of Research at MIT
Project Proposal

**Who?:** Address the needs of **journals** in addition to researchers and data managers.

**What?:** Enable journals to seamlessly manage the submission, review, and publication of data associated with published articles.

**How?:** Build the needed **technology** and create **awareness / incentives** regarding the importance of data sharing and preservation.

**Why?:** Help increase the **replicability** and **reusability** of research data.
Integrating Open Source Systems

We plan to do this by integrating two well-established open-source systems:

1. **Open Journal Systems** (OJS)
   [Willinsky 2005]

2. **Dataverse Network**
   [King 2007; Crosas 2011]
A repository for research data that takes care of **long term preservation** and **good archival practices**, while researchers can **share**, **keep control of**, and get **recognition** for their data.

**Note:** Major New Version 4.0 Coming Soon (Spring 2014)
Dataverse provides...

- Option for backups and replication of data in different locations (LOCKSS) so data is never lost.
- Re-format for long term accessibility so data never become obsolete.
- Extract Variable, Header (FITS) Metadata from datasets.
- Universal Metadata standards (DDI, DC, DataCite).
- Interoperability with other systems through standard protocols (such as OAI-PMH, APIs).
- Generates a DOI for permanent linking to datasets.

The Dataverse takes care of the archival infrastructure ("plumbing") for you!
Open Journal Systems (OJS)

Open Health Data is a peer-reviewed journal publishing papers that describe openly-accessible datasets with high reuse potential. We work with trusted data repositories to ensure that associated datasets are professionally archived, preserved, and openly available.

Open Health Data was previously published as the Journal of Open Public Health Data. The title and scope of the journal were amended on 1 January 2014 to support a broader range of health research.

Open source journal management and publishing system created by PKP to expand & improve access to research.
Journals using OJS to publish >=10 articles per year. Credit: Juan Alperin, PKP
OJS provides...

✓ Technical infrastructure for an entire editorial management workflow (submission, peer review, indexing).

✓ ‘Plugin' architecture (a la WordPress, Drupal, etc) to easily add new features without the need to change the entire core code base.

✓ Universal Metadata standards (expandable Dublin Core).

✓ Interoperability with other systems through standard protocols (such as OAI-PMH, APIs).

✓ Option for backups and replication of journals in different locations (LOCKSS) so access is never lost.
OK, so what is the integration going to do?

OJS Journal

Harvard Dataverse

OJS plugin for:
Data + supporting files + metadata sent via API (SWORD-based) to Dataverse
Which Workflow?

1. Submit paper
   - Approve paper + ask for data
   - Publish paper in OJS + release data in Dataverse

2. Submit paper + data
   - Approve paper + review data
   - Publish paper in OJS + release data in Dataverse

3. Submit paper + data
   - Reject paper + review data
   - Release data in Dataverse

+ 4, 5, 6, ....

Slide acknowledgement: Merce Crosas
Progress to-date

1. Compiled a list of potential journals (~100) that we can work with.
2. Publishers reviewed our plugin workflow and mockups pre-development.
3. Completed and released first version of plugin+API.
4. Small sample of journals tested + provided feedback of integration via survey.
5. Some of our partners have begun production testing.
6. Working on improvements to UI and metadata customization for v2 release
Demo

http://lib-hf1.lib.sfu.ca/ojs-2.4.3
Survey Findings

→ Overall **positive**: Most testers plan to implement plugin!

→ OJS doesn’t have the most eye-catching UI. Dataverse link & data citation must be prominent.

→ But users excited for an **OJS 3 + Dataverse 4 overhaul**!

→ Default dcTerms metadata defined in the SWORD spec is too limited for all of our users; the ability to customize fields is important.

→ Plugin should not treat all supplemental files as Dataverse-worthy (e.g., authors’ notes).
Next Steps (Spring 2014)

1. Publish best practices for data sharing policies.
2. Develop & release updated versions of plugin + Data Deposit API.
3. Continue to release all code and documentation :)
4. Expand on Collaboration.
Advantages to Integration

→ Reference implementation so others can reuse and extend (extension of SWORD).

→ Streamlining authors’ article and data deposit process.

→ Permanent 2-way linking of the published article with its archived data.

→ Increase visibility/access, and encourage data citation, replication and re-use.
Thank you!

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Project Website
http://projects.iq.harvard.edu/ojs-dvn

References


