Nordic Perspectives on Open Science

Experiences and Reflections: the PKP Sprint and CRAFT-OA Tech Event in Turin 2024

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Abstract

This article presents the impressions and reports of the three authors that attended three events: the national or large PKP OJS installations meeting, a PKP Sprint, and a CRAFT-OA Tech Event at the University of Turin. The events brought together a community from scholarly publishing and academia to share knowledge and collaborate with the purpose of building a stronger digital publishing ecosystem. The first day of the event concentrated on a meeting with representatives of the large and national PKP OJS installations. The meeting participants discussed technical and non-technical challenges they face and proffered solutions. The PKP Sprint on the second and third day produced some good ideas and results on documentation and new PKP software features. The CRAFT-OA Tech Event on the fourth and fifth day brought together key players in Diamond Open Access publishing to discuss technological and strategic improvements. The Tech event featured presentations and discussions on software development, indexing, and training. This article is about the sessions the three authors attended. We hope it will be useful for those who have not attended a national or large OJS installations meeting, PKP Sprint or CRAFT-OA Tech Event yet, and we hope it will motivate and inspire the readers to join in the future.

Keywords

CRAFT-OA Project, CRAFT-OA Tech Event, Diamond Discovery Hub, Open Access, Diamond Open Access, Error Handling, GDPR, HTML, JATS XML, Open Monograph Press, Open Journal Systems, Open science, Open Source, PKP Sprint, Public Knowledge Project, Typesetting, Weblate

Introduction

This paper describes three events that took place at the University of Turin, Italy, from October 6 to October 10, 2024: the Open Journal Systems (OJS) meeting for large-scale and national OJS installations, the PKP Sprint, and the CRAFT-OA Tech Event.

The events were hosted by the CRAFT-OA project – an EU-funded project that aims to improve the technical and organizational infrastructure of Diamond Open Access. All the events came together for the same goal: collaboration, innovation, and knowledge-building within the open source and academic publishing community.

The PKP OJS installations meeting on October 6 was specifically targeted at representatives from large OJS platforms, particularly those operating as national infrastructures or services, and/or university presses with sizeable OJS installations (i.e. hosting many journals, or hosting highly active journals with thousands of users, submissions, and reviewers). This meeting provided a platform for participants to share organizational strategies and insights from national or large installations and support joint initiatives. Discussions focused on the current state and objectives of these platforms, while also identifying opportunities for collaboration and funding.

The PKP Sprint took place on the 7th and 8th of October and was organized by PKP. It was a productive gathering of a group of community members including developers, librarians, researchers, and publishers to collaborate closely on PKP software and resources. The program included interactive problem-solving sessions in which participants worked on specific projects, shared knowledge, and contributed to the advancement of PKP's open-source tools. Coding, documentation, testing, concept development, and document revision were some of the activities put into practice to extend the functionality of PKP software, fix bugs, and build new features.

The CRAFT-OA Tech Event that took place on October 9–10 focused on Diamond Open Access publishing technologies and practices. It attracted stakeholders in the Diamond OA community, technology providers, journal editors, and technical professionals working with publishing platforms like PKP OJS, Lodel, and Janeway. Sessions were given on the Diamond Discovery Hub, core PKP OJS functionalities, and tools to be used for journal visibility and indexing. The event featured talks, workshops, and hands-on sessions, creating an environment conducive to learning and collaboration.

The remainder of this article provides a summary of our experiences at these three events. In the next sections, we will discuss in turn the national or large OJS installations meeting, the PKP Sprint, and the CRAFT-OA tech event over the five days. Our focus is on the groups and sessions we participated in, as there were other numerous parallel working groups and sessions that none of the authors could attend. By sharing our experiences, we aim to inform those who have not yet attended these events, and to encourage them to seize the opportunity when it arises.

Day 1: Meeting of National or Large PKP OJS installations

Figure 1. Department of Psychology Palazzo Badini Confalonieri, University of Turin. © Obiajulu Odu, 2024, Licensed under CC BY 4.0.

Public Knowledge Project (PKP) is a non-profit initiative that produces open source software and conducts research that improves the quality and reach of scholarly publishing. It was founded in 1998 at the University of British Columbia. PKP's major goal is to assist the development of open access to the products of scholarly research – made possible especially through the software platforms which have been widely developed by them, such as OJS and Open Monograph Press (OMP). The software platforms are increasingly being used by universities, institutions, and publishers for managing and publishing scholarly content across the world: OJS alone is used by over 52,000 active journals in over 150 countries, and supports more than 60 languages.

The meeting, organized by PKP, was held at the University of Turin's Psychology Department on 7th October 2024. The meeting brought together representatives of national and large OJS installations from Europe and North America. PKP was represented at the meeting.

The meeting began with each participant providing a 2-minute introduction, offering a general overview of their platforms. This session provided an understanding of what role each attendee plays and how their organization was structured. The discussions centered on specific needs and problems that national and large OJS installations face, going from the non-technical to the technical aspects, best practices shared and future collaborations for projects.

Non-Technical Challenges

Several non-technical challenges were raised. Participants underlined the need for funding and long-term viability. Others mentioned legal compliance, governance, the handling of multiple editorial boards, while branding and marketing represented another significant theme. There was a shared interest in trying to raise the profile of OJS installations through outreach activities such as social media, webinars, newsletters and blogs. The other major concern was the quality of metadata, where participants believed there is a need to have and maintain high standards of quality of metadata across platforms.

Technical Challenges

The group discussed several technical issues that were noted, including scalability, which will make the platform capable of large-scale operations. Customization and integration of different tools, for example, multilingual and accessibility tools, were also discussed as important to meet various users' needs. Participants pointed out that more development of OJS software is needed for better performance in large installations so that these platforms are efficient and more user-friendly.

Collaboration and Future Projects

The meeting closed with discussions on the possibilities of collaboration. There was a lot of interest from the participants in working together on various commonalities, technical and non-technical challenges. They spoke about the CRAFT-OA initiative for collaborative funding. Future projects could be on pooling resources to do outreach, co-developing scalable solutions, and creating a network to share strategies and best practices. The participants showed a keen interest in continuing the conversation and collaborating on their platforms.

Day 2: PKP Sprint

The PKP Sprint started on 8th October 2024 with a pitch session where participants presented their ideas on how to improve PKP's software and workflows. The ideas ranged from plugins, technical fixes, and managing software translations to enhancements. Groups were formed around selected projects for the two-day event. Participants collaborated in the planning, dividing of tasks, and leveraging of individual skills. We will explain the working groups we participated in during the two-day PKP sprint. A round-up summary of all the sessions, including some that we did not attend and therefore were not mentioned in this article, can be found at Turin 2024 Sprint: Round-up Summary.

The "Typesetting" working group

The Typesetting session was the most well-attended at the PKP Sprint, underscoring just how important this topic is for many participants working with OJS. The group brought together people from diverse backgrounds to focus on improving document handling in OJS, particularly around JATS XML and HTML workflows.

The group’s main goal was to co-create workflows and find tools that would make document creation easy for authors with different levels of technical expertise. The group discussions focused on issues that authors encounter in the real world, such as formatting documents, managing metadata, and the difficult learning curve associated with XML editors. The group recognized that many OJS authors rely heavily on Word and brainstormed ways to integrate new tools and workflows into existing authoring habits. This will shield authors from technical details like XML, making the process intuitive and user-friendly.

The group investigated existing tools like FidusWriter and how they might be embedded into OJS to automate HTML and JATS XML output. Reducing technical complexity and improving document creation's integration with the OJS environment were the goals. Enabling authors to participate earlier in the editing process was a key focus, as this could increase the effectiveness of converting files from Word, LaTeX, or PDF into HTML or XML.

A recurring challenge identified in the discussions was the reliable conversion of references, footnotes, and metadata across document formats. A smooth and accurate conversion process is essential to enhancing the experience for authors and editors. The group examined conversion tools such as Pandoc and Unoserver, focusing on the challenges of converting HTML/XML to PDF, where problems with image rendering, footnotes, and references usually occur. The group stressed the importance of finding solutions that preserve these elements accurately throughout the workflow.

The group made a workflow proposal which involves authors submitting Word documents that are then automatically converted to HTML and JATS XML. After peer review and revisions, the documents would move into a WYSIWYG editor for final editing and previewing. The editor would have access to the in-text editor, but not the author, and OJS would keep an audit trail to ensure transparency.

The working group also mentioned the need for extensible workflows to handle special tasks like mathematical formulas or chemical drawings. The editor would be flexible to allow plugins to be added to enhance the tool and make it work for different disciplines.

For next steps, the group emphasized the need for feedback from the broader PKP community. They encouraged discussions on the PKP Community Forum to get input on the proposed workflows and tools. This feedback would help to refine the tools, identify potential issues and make sure the final product works for all users, including those without a technical background.

In summary, the Typesetting working group made significant progress toward simplifying document creation and editing in OJS. By exploring the integration of tools like FidusWriter and improving XML and HTML workflows, the group aims to make the publishing process more accessible and user-friendly for both authors and editors in the open access community. The draft workflow developed during the session holds promise for streamlining typesetting in OJS, and some of the tools discussed will be evaluated further by PKP as part of ongoing improvements.

Day 3: PKP Sprint continues

PKP Sprint continued 9th October 2024 and the authors attended two sessions this day: “Plugins and error handling”, and “Multilingual support”.

Plugins and Error Handling working group

The working group "Plugins and Error Handling" discussed a number of the most current issues faced in plugin management within OJS, such as compatibility problems, server crashes, and problems with error handling. All these issues arise because plugins fail to match the most current PHP versions or system updates, thus creating problems for a non-technical user, who cannot write codes, query databases or configure the server.

Key Issue Identification

The group listed a number of critical challenges regarding plugin management: installed plugins may crash an entire OJS instance when newer PHP versions are not compatible with OJS, especially in the case of third-party plugins. Also, other issues like system failure from broken plugins and inability to interpret error logs were identified. In general, most users, non-technical ones especially, experience difficulties while trying to handle plugins on their own and dealing with plugin-related issues independently.

Typical failure scenarios also include plugins that stop working following server upgrades, like operating system updates, especially with a Debian/Linux base incompatible with older PKP standards. Furthermore, the Inline HTML plugin causes errors upon every update of the system, and the custom locale plugin did so after any modification of the templates. The necessity for users to identify what the problem is by studying server logs is unwarranted and often feels overwhelming for non-technical users, who cannot perform troubleshooting of OJS or the server.

Proposed Solutions

These issues led the working group to explore a range of solutions that could make plugin management easier for OJS users. The first important deliverable from the group was to create a tool that could block problematic plugins. When this tool is officially integrated into OJS, it will enable a user to disable a plugin, whether it causes any

backend failure without having direct access to the server or technical interference. In fact, this is a very useful solution whenever the backend is not reachable due to errors caused by plugins.

The other big development was the enhancement of error handling within OJS. The group worked on enhancing error handling at integration points, like hook calls, where a lot of plugins tend to break. By hardening error handling in these places, the group hoped to avoid plugins crashing OJS instances and to make the overall system more stable.

The group discussed improvements in the Plugin Compatibility Page for better visibility of the plugin status. Additionally, the group discussed the use of automated testing, which tests for compatibility upon plugin installation and/or updates to provide more certainty to users regarding plugin performance.

The group stressed the importance of community feedback. The tools developed during this sprint are to be fine-tuned based on the experiences and the real needs of the wider PKP user community. The group also proposed making good use of the results of active surveys about plugins in gathering feedback from users on any shortcomings observed and possible areas for improvement.

Practical Outcomes

By the end of the sprint day, the working group was able to accomplish an impressive development of tools resolving problems associated with plugins. The most impressive outcomes included developing a plugin that would intentionally break the system in different ways. This worstPluginEverPlugin was used to simulate different failure scenarios, thus helping the group understand how plugins fail in various configurations and contexts. The plugin is now available for testing and forms a very useful framework with which developers can test potential problems and ensure better compatibility with OJS.

Added to that, the team wrote a PHP script able to disable plugins from the command line, which is useful when the failure of a plugin has made the backend unavailable. This tool makes recovery from plugin issues easier and manages to restore system functionality without necessarily having to intervene directly on the server.

The group worked on improving error handling regarding *Hook Registrants* – the other major common cause for plugin failure. By better capture and handling of such errors, the group expects plugins would not contribute to system-wide crashes.

Next Steps and Community Engagement

Ahead of a series of next steps, the working group identified that community feedback should be sought via the PKP Community Forum. The result will be further refinement of the tools, with more information on outstanding issues that might be encountered by end-users. The group also wants to continue to build out automated testing and

compatibility checks so that plugins can be better tested at the time of installation and upgrade.

This sprint has been a milestone for solving problems regarding plugins in OJS. Tools developed during this sprint will bring more stability and usability for the OJS users, especially those without a high level of technical background in troubleshooting. As these tools continue to evolve with input from the PKP community, the group hopes to have created a more robust and user-friendly environment for managing plugins in OJS which will in turn improve the overall user experience for the greater open access publishing community.

Multilingual Support Working Group

The session was divided into two main segments, focusing on both technical aspects and translation routines for multilingualism in PKP's system portfolio, particularly OJS.

Technical Aspects of Multilingualism

The morning session had a strong focus on the technical aspects, with much concentration on the user interface of the administrators, editors, and authors. Discussions included the implementation of multilingual features and the distinctions between languages supported by the UI, metadata entered, and submissions accepted. These are not intuitively defined in some cases, and making variant entries for different languages into metadata can feel like a mess. Improvements were discussed and the attendees got a chance to see how multilingualism is envisioned for the next versions of OJS (3.5 and 3.6) and provide feedback to the UX/UI team.

Issues like the lack of support for smaller languages, especially those without ISO-639-1 codes, were addressed. Other bugs were found in the way translators are flagged in Crossref XML metadata exports from OJS. The working group pointed out that clarification of roles in metadata should be made so translators are not wrongly flagged as authors, an issue identified since 2020.

Translation Routines and Workflow

The afternoon session was dedicated to translation routines, commencing with an in-depth look at PKP Weblate, an online platform for PKP translations. A draft of guidelines on translation work was produced, informed by the experiences of the Spanish translation. Important points included the development of a glossary of key terms that should be used consistently across translations and the basing of work on national groups for PKP products where such groups exist.

The regional translation workflow proposed thus involves the following steps in sequence:

1. Identifying appropriate regional networks (or establishing new networks) using the PKP Community Forum

2. Naming moderators
3. Setup of the translation environment within Weblate
4. Working with PKP's translation coordinator

The use of Weblate to support community-based voting on translations for inclusion is also a part of the workflow. Additional documentation was provided to support the use of regional networks as an added chapter in PKP Translating Guide.

Future developments and recommendations

The working group received an overview of upcoming changes within the OJS 3.5 release that addresses several challenges, such as enhanced multilingual forms. But more work will be necessary to ensure the system is accessible and intuitive for all users regardless of language.

The group's work underlined that multilingual support in OJS needs further refinement to serve international communities better. Clear workflows for translations and sorting out the metadata issues are the crucial steps toward making OJS serve the needs of multilingual users efficiently and in a user-friendly way. Building regional translation teams and using tools like Weblate will help in the global accessibility of OJS.

In other words, the work of the working group pointed out the importance of collaboration across language boundaries for enhancing both accessibility and usability of OJS within a multilingual community.

Day 4: CRAFT-OA Tech Event

Figure 2. Department of Historical Studies at the University of Torino. The department, alongside its library facilities, hosted the event. © Karl Magnus Nilsen, 2024, licensed under CC BY 4.0.

The CRAFT-OA Tech Event took place at the Department of Historical Studies library facilities at the University of Turin on 10th October 2024. The event brought together Diamond OA stakeholders of all kinds for two days of presentations, discussions, knowledge sharing, coding and other hands-on sessions.

The CRAFT-OA project is an EU-funded 3-year long project, which by the end of December 2025 aims to consolidate and reinforce the Diamond OA community, by improving journal publishing platforms, strengthening community infrastructure, providing integrations, and last, but not least, by making Diamond OA publishing more recognized, more visible and easier to discover. The gathering in Turin targeted all these goals.

Diamond OA refers to a model of scholarly publishing when journals or platforms provide free reading access to their content, also without any fees from authors. Typical support for this model comes from an institution, libraries, or funding from the government. Diamond OA is still quite vulnerable, compared to commercial OA. The latter is still often seen as more desirable and more prestigious compared to the former, especially in the English-speaking parts of the world.

The sessions during the event centered around the five Key Exploitable Results (KERs) of the CRAFT-OA project, which are designed to support and enhance Diamond OA publishing while ensuring sustainability and collaboration among community actors. These KERs are:

1. The Diamond Discovery Hub
2. OJS Core Feature Enhancements
3. OpenAIRE Publisher Dashboard
4. Institutional Publishing Technical Living Handbook
5. OJS Diamond Plugins

A pitch session kicked off the opening day, laying the groundwork for the subsequent sessions. It provided a high-level summary of the aims and objectives of the project and a series of targeted talks and workshops that were all intended to address important community issues that came next. The key themes included:

- Reinforcing community-oriented publishing
- Driving technological innovation
- Tackling sustainability challenges

The sessions were structured to tackle pressing issues such as improving journal discoverability, enhancing interoperability, and providing stakeholders with practical tools and methodologies aligned with the FAIR principles.

Most sessions during the Tech Event were presented in parallel, so we could not participate in all of them. Below is a short summary of the topics from these sessions we participated in.

Diamond Discovery Hub Session

The second session on the first day covered the Diamond Discovery Hub (DDH). CRAFT-OA describes DDH as "a comprehensive registry of institutionally published and scholar-led Open Access Journals in Europe". It will take the form of a central registry, whose goal is to increase the discoverability of institutionally published and scholar-led Diamond OA journals in Europe.

Participants acquainted themselves with the platform architecture, development context, and practical applications of Diamond criteria. During the workshop, participants were given the opportunity to work hands-on with the alpha version of the platform to become familiar with the editorial model, metadata exchange format called JMEF, and API functionalities. This exemplifies the attempts towards bridging the gaps in metadata quality and interoperability that keep Diamond OA journals more invisible.

OJS Diamond Plugins Session

OJS Diamond Plugins were intended to lighten the burden of editors who are often responsible for managing journals in addition to their main activities. These plugins improve interoperability and discoverability, thus allowing automatic links to platforms such as OpenAIRE and EOSC. Tools like the OpenAIRE connector and interoperability of JATS XML support metadata exchange and integration with critical databases. Feedback loops are also supported by plugins, further enhancing the efficiency and impact of Diamond OA journals.

An OJS plugin for EOSC interoperability is in progress. Target project deadline will be concluded in June 2025.

Day 5: CRAFT-OA Tech Event continues

There were two sessions on developing OJS core features we attended. The sessions focused on GDPR and in the way editors handle user and reviewer information from a European perspective, and improved support for the use of external controlled vocabularies, to be used in submission metadata. Some examples of sources for controlled vocabularies were pointed out, such as the American Medical Subject Headings, Library of Congress Subject Headings, Svenska ämnesord from the Swedish Metadatabyrån, and the German Gemeinsame Normdatei.

The last of these sessions also included a discussion with the session participants about standards for contributor roles and content types, with a focus on different taxonomies, and how other systems and services have solved similar challenges.

These feature enhancements will be available in version 3.5 of OJS.

Insights and Outcomes

Each session of the two-day CRAFT-OA Tech event offered valuable insights into advancing the goals of Diamond OA publishing. The event emphasized the importance of collaboration, community-driven innovation, and sustainable practices to ensure the long-term viability of the OA ecosystem. It became very clear during the event that CRAFT-OA is a work in progress, and that input from the Diamond OA community is regarded as highly valuable to the project.

A round-up of the presentations at the sessions, including some that we did not attend and therefore were not mentioned in this article, can be found at CRAFT-OA Tech Event 2024.

Conclusion

The three events that took place at the University of Turin in October 2024 (the National/Large Installation meeting, PKP Sprint, and CRAFT OA Tech Event) showed the spirit of cooperation and creativity at work in the OA publishing ecosystem. The national/large PKP Installation meeting provided a crucial platform for representatives of large OJS platforms to share strategies and explore opportunities for collaboration and funding. PKP Sprint was a workshop-like event bringing together publishers, developers, and librarians to advance PKP's open-source tools with a focus on software functionality and user experience. CRAFT OA Tech Event focused on Diamond OA but also presented methods and resources contributing to interoperability and findability of OA journals.

A common denominator of these discussions was that sustainable practices need to be coupled with community-driven solutions if OA initiatives are to be sustainably viable in the longer term. Participants left with renewed energies for the advancement of Open Access, armed with new insights and strategies to implement in their respective fields.

About the authors

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