Open Journal System (OJS) 3.0 Evaluation

Findings and Recommendations

Rachael Hu, User Experience Design Manager and Gregory Shapiro, User Experience Contractor

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## CONTENTS

Executive Summary .............................................................................................................................................................. 5  
Introduction .......................................................................................................................................................................... 6  
Research Methodology ......................................................................................................................................................... 7  
  Interviews and Usability Tests .......................................................................................................................................... 7  
  Participants ....................................................................................................................................................................... 8  
    Institutional Participants ............................................................................................................................................... 8  
    Usability Tests Conducted ............................................................................................................................................. 8  
User Profiles and Perspectives .............................................................................................................................................. 9  
  Administrators .................................................................................................................................................................. 9  
  Journal Managers ........................................................................................................................................................... 10  
  Editors ............................................................................................................................................................................. 10  
  Authors ........................................................................................................................................................................... 10  
  Reviewers ........................................................................................................................................................................ 11  
  Miscellaneous Users ....................................................................................................................................................... 11  
Findings ............................................................................................................................................................................... 11  
  Overview ......................................................................................................................................................................... 11  
    OJS 2.X Overview ........................................................................................................................................................ 11  
    OJS 3.0 Alpha Overview .............................................................................................................................................. 13  
    OJS 3.0 Major Finding Areas ....................................................................................................................................... 14  
Global Navigation ............................................................................................................................................................... 15  
  User Perspective: All Roles ......................................................................................................................................... 17  
  Barriers and Recommendations ................................................................................................................................. 17  
Journal Setup and Configuration ........................................................................................................................................... 18  
  Administration and Journal Settings Wizard .............................................................................................................. 18  
  Management and Journal Settings ............................................................................................................................. 24  
  User Perspective: Administrator, Journal Manager and Editor .................................................................................. 30  
  Barriers and Recommendations .................................................................................................................................... 30
This report is a collection of findings, recommendations, and user profiles from a 2013 evaluation of the Open Journal System (OJS) 3.0 alpha conducted by the California Digital Library (CDL) as part of its development partnership with the Public Knowledge Project (PKP). The goals of this evaluation were two-fold.

- To test the efficacy and usability of the 3.0 alpha interface.
- To build a foundational understanding of the different users interacting with the OJS system - what they needed to accomplish during their part in the editorial process, their motivations, and goals in using the system.

**Methodology**

Since the OJS system has a great deal of wide-ranging functionality spread across a complicated, multi-branching user interface, we determined that in this initial evaluation it would not be feasible to test the entirety of the system. Instead, we focused on testing users within the primary journal management and editorial workflow components of the system. We did not test the journal's public interface or the setup for the journal website display. Instead, we prioritized and focused the evaluation on the following scenarios:

- Journal setup
- Article submission
- Article review
- User account setup and role assignment
- Publication of an article and issue

For the purposes of this evaluation, we worked with five major institutions who were current adopters of OJS. This method was selected since the institutional administrators and journal managers of these OJS instances could assist in subsequent user recruitment for editor, author, and reviewer roles, as well as provide their contextual perspective in the overall management of their version of the OJS system.

In order to fully understand the background of the institutions that we were testing, we conducted an initial set of contextual interviews to understand how each institution was utilizing their instance of OJS. We conducted over 20 one-hour user engagement sessions that included background interviews and testing of the prioritized workflows. (See Interview and test scripts via the [evaluation project wiki](#).)

**System Findings**

In general the major pain points of the 3.0 version fell into the following finding areas.

- Entry points into system need clarity and re-structuring.
- Locations for setting up journals, configuration, user account, and role assignments are difficult for users to find.
- Splitting related tasks in multiple places is a barrier for users to complete the given task.
- Dashboard construct’s usefulness, while good, is predicated and dependent on a sound mapping of content assignments behind the scenes.
- Versions, iterations and associated supplemental material of submission content need to be handled in a more coherent, visible way throughout review and editorial process.
- Interactive cues and features are dependent upon a very fine-grained visual design. Icons, and text are difficult to read and the use of color to indicate status is difficult to recognize and decipher.
Email notifications require a thorough content review and specification process for labeling, general layout, and link issues.

Layout of elements on screens within the entire editorial process needs improvement in order for users to understand which items to act on.

Use of language and labels depicting content status across—email notifications, dashboard descriptions, and article level display need to be regularized and consolidated so that users can recognize the through line for a submission across all three of the major use areas that they are likely to encounter in their interactions with the OJS system.

Operational Findings

During the course of the evaluation project, CDL’s User Experience (UX) team also encountered a number of operational findings that we believe to be of importance. While outside the purview of a user interface review, we believe that these findings do have direct ramifications on the overall user experience of future iterations of the OJS system.

- Formal user participation channel
- Design and development team structure
- Legacy data import and display issues in OJS 3.0 alpha
- Quality assurance testing

Conclusions

At the conclusion of the OJS 3.0 alpha evaluation project, the PKP team has made the decision to commence the design and development phase with their internal development staff. The CDL UX team is handing off the evaluation findings via this report with best wishes and a reminder that, due to the intrinsically structural and overlapping findings from this evaluation, a holistic design process is required in order to effectively re-engineer some of the system-wide structural information architecture, grouping, layout, and consistency issues that this evaluation has uncovered. If an iterative and agile design methodology is employed moving forward, great attention must be paid to the integration of each new design piece to ensure that it seamlessly integrates with the larger system and does not adversely impact the design in other areas of the site. As well, attention must be given to user and community needs in regards to operational findings, such as difficulty in importing legacy data into the current iteration of the OJS 3.0 alpha. Addressing all of these issues will require careful planning, consultation with stakeholders, and clear prioritization of development work.

INTRODUCTION

This report is a collection of findings, recommendations, and user profiles from a 2013 evaluation of the Open Journal System (OJS) 3.0 alpha conducted by the California Digital Library (CDL) as part of its development partnership with the Public Knowledge Project (PKP). In 2012, PKP developed a new user interface construct for the Open Monograph Press (OMP) platform. This new construct with a new vocabulary of design modules for list building, form fields, and upload mechanisms formed the basis for an initial design for the OJS 3.0 alpha.

The goals of this evaluation were two-fold.

- To test the efficacy and usability of the 3.0 alpha interface.
- To build a foundational understanding of the different users interacting with the OJS system - what they needed to accomplish during their part in the editorial process, their motivations, and goals in using the system.
Interviews and usability tests were conducted on the OJS 3.0 alpha to determine where users encountered success or difficulty completing tasks that were core to their editorial and publishing workflow. We came away with not only an accounting of user barriers and pain points but also the basic use cases describing how working with OJS fit into the day-to-day organizational setup and practices of the community utilizing this system. This foundational understanding will serve as a building block during the design phase that is to follow: It will provide the designers of the system with a contextual understanding of which design solutions are more likely to successfully meet their users’ needs.

RESEARCH METHODOLOGY

This evaluation project, conducted by CDL’s User Experience (UX) team, marked the first time that a comprehensive, mediated user evaluation process was utilized to assess the usability and effectiveness of the core OJS functionality. We felt that a comprehensive evaluation was necessary since much of the community feedback for the OJS 2.x versions as well as the feedback for the OMP 1.0 system was centered on the inability to navigate successfully between different areas of the system and to complete interlinking functional workflows. As a result, the research methodology was a multi-tiered and complex process.

Since the OJS system has a great deal of wide-ranging functionality spread across a complicated, multi-branching user interface, we determined that in this initial evaluation it would not be feasible to test the entirety of the system. Instead, we focused on testing users within the primary journal management and editorial workflow components of the system. We did not test the journal’s public interface or the setup for the journal website display. Rather, we prioritized and focused the evaluation on the following scenarios:

- Journal setup
- Article submission
- Article review
- User account setup and role assignment
- Publication of an article and issue

In preparation for conducting the user evaluations, we spent an intensive discovery period learning how the system worked and documenting the functionality that we intended to test. We participated in a number of walkthrough sessions with the development team that had designed and developed the 3.0 version in order to assist us with these tasks. Given the complexity of the OJS system, this documentation process was necessary to enable us to more accurately formulate the test scenarios and successfully facilitate and lead the user testing. An environmental scan was also conducted of other publication platforms as well as other systems that had upload, content management and publication features similar to those found in OJS. This environmental scan gave the UX team necessary context in order to understand other systems that users may have encountered and also provided a starting point to understand what they were expecting when faced with uploading and managing content. (The environmental scan presentation is available via the evaluation project wiki.) Since no formal usability testing had previously been conducted on OJS, no test data was available to run the system through its paces. Therefore, we created email accounts, test content, and metadata to ensure that all of the required test scenarios had the necessary data in place in order to test the functionality. We also experimented with importing one current OJS user’s legacy journal data for a single journal. The results from using this second data method are detailed in the operational findings section.

INTERVIEWS AND USABILITY TESTS
For the purposes of this evaluation, we worked with five major institutions that currently use OJS. This method was selected since the institutional administrators and journal managers of these OJS instances could assist in subsequent user recruitment for editor, author, and reviewer roles, as well as provide their contextual perspective in the overall management of their version of the OJS system.

To begin, we conducted an initial set of contextual interviews to fully understand how each institution was utilizing their instance of OJS. We conducted over 20 one-hour user engagement sessions that included background interviews and testing of the prioritized workflows. (See Interview and test scripts via the evaluation project wiki.) The interviews were conducted online through the Readytalk web conferencing system, during the third and fourth quarters of 2013. We developed an initial matrix of desired user types that served as a guide during our evaluation process.

- Administrator
- Journal Manager
- Editor
- Author
- Reviewer

**PARTICIPANTS**

To ensure appropriate coverage of different user perspectives, we sought participation from various institutions that utilized OJS in a variety of ways. We selected a range of organizations from those that maintain their own instance of OJS to others that utilize a hosted solution maintained by PKP. We also worked with institutions that utilize different OJS system components and/or maintain different numbers of journals.

**INSTITUTIONAL PARTICIPANTS**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Number of Journals in OJS</th>
<th>Workflow Utilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution 1</td>
<td>1-2</td>
<td>Submission and review process</td>
</tr>
<tr>
<td>Institution 2</td>
<td>30+</td>
<td>Submission, review, copyediting, publication, and public article display</td>
</tr>
<tr>
<td>Institution 3</td>
<td>50+</td>
<td>Submission and review process</td>
</tr>
<tr>
<td>Institution 4</td>
<td>3-5</td>
<td>Submission and review process</td>
</tr>
<tr>
<td>Institution 5</td>
<td>30+</td>
<td>Submission, review, copyediting, and publication</td>
</tr>
</tbody>
</table>

**USABILITY TESTS CONDUCTED**
### Test scenario and Number of Participants

<table>
<thead>
<tr>
<th>Test scenario</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator</td>
<td>5</td>
</tr>
<tr>
<td>Journal Manager/Editor</td>
<td>5</td>
</tr>
<tr>
<td>Editor</td>
<td>3</td>
</tr>
<tr>
<td>Author</td>
<td>4</td>
</tr>
<tr>
<td>Reviewer</td>
<td>4</td>
</tr>
</tbody>
</table>

### USER PROFILES AND PERSPECTIVES

During our background interviews and usability tests, we not only tested users on the success of the functionality but we also asked them to describe their over-arching editorial and publication practices. We wanted to know when they would use the OJS system and when they would not. We wanted them to help us understand the circumstances surrounding their overall workflow and process, their motivations to use or not to use certain components of the system, as well as their ultimate goals and needs for each phase of the scholarly publication process. This deeper understanding of the users’ back-stories allowed us to develop mini-profiles to help give us context surrounding each of the major finding areas. This context will allow the development team to understand not only why pain points were occurring in various areas of the interface but also how to go about fixing them. We developed mental models for all major roles that were tested. What follows are brief descriptions of each role. Under each finding area, we will go into more detail about each user role’s context as it relates directly to the pain points and goals for that area.

### ADMINISTRATORS

The administrator role is usually filled by a technical member of the institutional team adopting OJS. This role is generally in charge of setting up the initial OJS instance, creating journals, and creating initial user accounts for journal managers or editors. The administrators and the journal managers/editors they work with are often times not co-located. The administrators also do not make decisions about the content and metadata that goes into the creation of the journals. They are usually sent this information by the journal managers and editors and often the information is not completely available at the time of journal creation. The administrator is normally given the journal title and perhaps one main contact’s user information. The journal administrator is interested in quick and easy controls that allow them to setup and create initial journal and user accounts, as needed. They also want easy ways to troubleshoot technical infrastructure issues when called upon by journal managers and editors. They are less interested in having immediate access to the configuration details for individual journals since these details entail inputting of information that is beyond the purview of their work responsibilities. However, they are called upon to assist in troubleshooting and ensuring that application of technical extensions, such as enabling of widgets or interface refinements are
executed properly. At times, depending on the comfort level of their journal manager or editors, they are also called upon to assist in journal configuration details or user account setup and role assignments.

**JOURNAL MANAGERS**

The journal manager role is usually filled by a program or service manager member of the institutional team adopting OJS. This role is generally in charge of further configuration of journal content and metadata settings, as well as setting up workflow parameters such as review process time, email notifications, etc. While journal managers are in charge of filling in this information, the content and policies are determined by the editor of the journal. This role also assists the editors in creating user accounts and setting role assignments at the system or journal level. At times, the journal managers are also in charge of taking articles that have successfully passed through the editorial process and creating the production versions of the articles that will then be published to the reader interface or some other local display and access platform. Some journal managers take the article through to final publication. Since they are often called upon to work across all journals within an OJS instance, journal managers seek clear guideposts and navigational scent trails that can help them quickly travel from system-wide settings to journal-specific settings within the interface without a lot of second guessing due to labels and functional groupings that do not align with their understanding of the journal publication process. For those who are managing an OJS instance with upwards of 40-50 journals, they want the configuration and editorial process to be as simple as possible since they want to hand off more of those day to day management responsibilities to the editor of each journal.

**EDITORS**

Editors are in charge of the editorial process for content submitted to a particular journal. They review articles that have been submitted and determine whether these articles should be moved into the formal review process. Once they assign the articles for external review, editors coordinate with reviewers and authors as needed during the review process. Sometimes these editors also manage the article’s progress through the copyediting and production processes. Also, some editors handle the issue creation and publication of articles. Some OJS instances have one editor handling all editorial responsibilities, while other instances have a larger staff with one head editor and a number of section editors that handle articles for particular sections within the journal. Still other instances have co-editors. The editor’s greatest need is to have quick, at-a-glance information about the submissions for their journal. They need to know how many submissions are currently engaged in the editorial process, the status of each of these submissions within the process, and who is currently assigned to complete a task for a submission. They also need to be able to access all versions of a submission and be able to move relevant versions on to the next part of the editorial process with ease. While they do interact with the system frequently, **it should not be taken for granted that once they know how to perform an action that they will retain this knowledge**. If visual cues, labeling, and page layouts are difficult to decipher, editors will still experience great frustration and be vulnerable to delays for their time-sensitive publishing activities.

**AUTHORS**

Authors are any scholarly user submitting content to a journal for publication consideration. For the most part these authors utilize the author guideline information on the public facing website to ensure that their submissions meet the submission and publication criteria for a particular journal. The authors are interested in a clear and easy to use submission process. Once their submission is uploaded into the system, authors want clear submission status indicators either on the editorial component of the site or via emailed communication either from the editor or generated by the system.
REVIEWERS

Reviewers are scholarly experts in the journal’s domain area that provide evaluation and review of the intellectual content of the journal submissions. Out of all of the users, the reviewers typically have the least interplay with the system. They are usually sent emailed communication either from the editor or editor-generated communication from the system. These communications should give them enough information to decide whether or not they want to agree to take part in the review process. If they agree, they continue on to the system and download a copy of the article. Their goal is usually to interact with the system as little as possible, complete their review work and send it back to the system in as easy and seamless a way as possible.

MISCELLANEOUS USERS

In the course of our background interviews, we also encountered copyeditors and auditors; secondary users that have review privileges for the submitted articles during the production process. So as not to delay the evaluation recruitment and test timeline, we did not ultimately recruit or test the workflow for these miscellaneous users. However, we did test the general functional usability of the areas of the site they would be utilizing for general ease of use.

FINDINGS

OVERVIEW

After the user evaluation phase was complete and the user data was analyzed, we were able to synthesize the findings into some general pros and cons of the existing OJS 2.x design versus the new OJS 3.0 design. This synthesis view of the two design directions leads into a condensed view of the overall finding areas for OJS 3.0 and the details of pain points and high-level recommendations for how to alleviate the pain points.

OJS 2.X OVERVIEW

In the 2.x versions of OJS, the main editorial and management portion of the user interface has a very lateral structure. Entry into journal configuration and content management occurs through small lists of links underneath each journal title. The main way to travel down into the content is through a browse method.
The overall positive effect of such a design is that users can, for the most part, see at a glance where they need to click in order to drill further down into the content areas of the system. However, a major negative effect is that the interface can become cluttered if the particular instance has many different journals to manage at once. As well, the browse interface as configured has an older design aesthetic and display constructs in place.

**OJS 3.0 ALPHA OVERVIEW**

In the 3.0 alpha version of OJS, the main editorial and management portion of the user interface has more of a vertical structure. Entry into the main journal content occurs through a dashboard construct with submissions separated into various tabs (current tasks, submissions, and archives) as well as different queues within each tab. Journal configuration functionality is moved into the global navigation. The main artery into the journal content is through the dashboard construct which is used as a funnel with a multitude of outlets.
Overall, the new OJS 3.0 alpha design construct has a more streamlined design with the dashboard in place. However, if the filtering functionality of the dashboard is faulty, especially in relation to legacy data that has been amassed by the community through their adoption and use of previous iterations of OJS, then users will be unable to utilize the dashboard construct as intended. Since this is the only way down into the content in this current iteration of the system design, this will prove a major barrier to the utilization of the new user interface.

**OJS 3.0 MAJOR FINDING AREAS**

In general, users considered the major functional areas and display constructs, such as the dashboard entry point, appropriate to the system. Users also noticed that the overall user experience had some of the more modern interactive elements that they were used to seeing on other websites. However, there was still a significant barrier to use, as expressed by one of the journal managers that we interviewed.

“Well the interface in terms of pure visual appeal is better: the drag and drop is nice, the setup wizard; some of that stuff is slicker and handier. But the structural issues: the things that made it hard for me to figure out [OJS 2.x] in the first place, are still hard in this version. Figuring out where to go for things in a way that makes sense is still pretty difficult...”
In general, the major pain points of the 3.0 version fell into the following finding areas.

- Entry points into system need clarity and re-structuring.
- Locations for setting up journals, configuration, user accounts, and role assignments are difficult for users to find.
- Splitting related tasks in multiple places is a barrier for users to complete the given task.
- Dashboard construct’s usefulness, while good, is predicated and dependent on a sound mapping of content assignments behind the scenes. Dashboard display requires layout refinement.
- Versions, iterations and associated supplemental material of submission content need to be handled in a more coherent, visible way throughout review and editorial process.
- Interactive cues and features are dependent upon a very fine-grained visual design. Icons and text are difficult to read and the use of color to indicate status is difficult to recognize and decipher.
- Email notifications require a thorough content review and specification process for labeling, general layout, and link issues.
- Layout of elements on screens within the entire editorial process needs improvement in order for users to understand which items to act on.
- Use of language and labels depicting content status across—email notifications, dashboard descriptions, and article level display need to be regularized and consolidated so that users can recognize the through line for a submission across all three of the major use areas that they are likely to encounter in their interactions with the OJS system.

The details of these finding areas are broken out into the following major functional scenarios: global navigation, journal setup and configuration, journal workflow management, user account setup and role assignment, dashboard, submission, external review, editorial, production, publication process, and other miscellaneous and operational findings. The areas are depicted in the following manner in the remainder of the report.

- Current design of functional process
- User profile depicting motivations, goals, and work practices
- Pain points that users experienced using the functionality
- Recommendations for change

Of special note, while the bulk of the findings in this report address the display, interactions, and organization of the user interface, there were a number of operational findings that the UX team encountered while working with the PKP team that also have impact on the overall user and community experience of the OJS 3.0 system. These operational findings are enumerated towards the end of the report after the user interface portions have been described.

GLOBAL NAVIGATION

As we introduced in the overview, the global navigation is a main entry point to much of the OJS 3.0 journal setup, configuration, workflow management, and user account management functionality. In this system, the global navigation occurs on the top horizontal area of each screen. In addition to the configuration and management functionality, the global navigation also includes navigational links to published journal content. Typically, global navigation is an element that for the most part remains unchanged. In the OJS 3.0 global navigation, change in the available links occurs depending on a couple of different factors, role and permission of user logged into system as well as journal selection. [Note: the screenshots displayed in this report are of a basic OJS 3.0 alpha installation with mock journal data.

Skip process screens and go directly to user perspective.
Step 1: Global navigation before login on the OJS instance homepage (no journal selected).

Step 2: Global navigation before login on selected journal homepage. Displayed global navigation includes only links “Current” and “Archives” to published journal content. As well, the “About” link includes placeholders link to Journal’s brochure and informational pages.

Step 3: Global navigation after login as “administrator” with no journal selected.

Step 4: Global navigation after login as “editor” with a journal selected. [Note: appearance of all management functionality only displays after a journal has been selected.]
**USER PERSPECTIVE: ALL ROLES**

All users employ the global navigation, albeit for a variety of purposes. Administrators, journal managers and editors often perform multiple tasks when logged into a publishing platform. They have to move between functions involving journal setup and configuration, user account creation, issue creation, and back down into article level content quickly without having to hunt for the right menu option. The bulk of their system and publication management tasks involve this area of the site. If they do need to navigate to the reader interface, which contains author guidelines, brochure information about the journal and published content, they usually consider this area of the site separate and distinct in relation to the journal configuration and process management areas.

Scholars, authors, and reviewers have more limited interaction with the editorial process interface. Though, authors and reviewers are called on to submit, upload, and download content to a publishing system. In these efforts, they do not need to complete journal management tasks so they only need to see article-level pages to upload and download content as needed. They want to access the entry point into the system in a series of fast and easy steps so that they do not have to hunt and peck for the appropriate access point into their submission or review portion of the workflow.

**BARRIERS AND RECOMMENDATIONS**

One of the major barriers to use for the global navigation is the disconnect that occurs between journal-related navigation (Current, Archives, Management Issues), journal configuration navigation (Management Settings), and user role-based navigation (Dashboard, and Administration). The areas are co-mingled in such a way that it is hard for users to decipher for the first time or recall on subsequent visits where to go for a particular type of content or functionality. Also, links such as the “Administration” link is displayed in a smaller font size that makes it visibly difficult for users to discern in an already crowded and complicated real estate area.

This navigational challenge becomes even more of an issue when a multi-journal pull down menu comes into play.
Recommendation:

- For the Administration link, call out the link in a visual way to bring it into greater prominence for quick and easy recognition by administrators who want to login and find the area where they can regulate and complete administrative tasks.
- Apply visual separation between dashboard and administration links and other navigational areas.
- More clearly associate “Journal pull down menu” with content-based navigational areas, such as Current, Archives, and Management.
- Apply visual separation to “Management link” to differentiate it further from content-based navigation.

JOURNAL SETUP AND CONFIGURATION

ADMINISTRATION AND JOURNAL SETTINGS WIZARD

In OJS 3.0, journal setup and configuration occurs in a couple of different areas of the system. The initial creation process occurs under the Administration area via a journal setup wizard. The journal setup wizard contains an amalgamation of journal metadata setup screens as well as screens for public reader interface appearance and some initial user account creation.

Skip process screens and go directly to user perspective.
**Step 1:** The Administration link in the upper left corner of the global navigation is a link that is only available to Administrators. This link is where Administrators need to go to create and setup journals in OJS.

**Step 2:** Under the Administration area, the journal creation wizard is located under the Hosted Journals link.
Step 3: The Hosted Journals area contains a listing of all journals within the OJS instance. To create a new journal, users must click on a Create Journal icon located in the top right corner of the journal list.

Step 4: Once a user clicks on the Create Journal icon, a lightbox window appears with the initial Create Journal screen. Mandatory fields on this screen are the Journal title and the Path.
Step 5: Once the Create Journal screen has been completed, the user is launched directly into the Journal Settings Wizard. The wizard is composed of six tabbed areas. The first area is the Masthead area. The mandatory fields in this area are the Journal Name (which is pre-populated from the Create Journal screen), Journal Initials, and Journal Abbreviations. The Journal Initials and Abbreviations are later utilized in email notification title areas. Upon entry into the Settings Wizard all tabs are grayed out except for the active tab. Users must complete mandatory fields for a tab before the Continue button appears at the bottom of the screen and allows the user to progress to the next tab.

Step 6: The second tab on the Settings Wizard is the Contact tab where the administrator can enter in contact information for the journal’s principal contact.
Step 7: The third tab in the Settings Wizard is the Appearance tab. This tab includes functionality that allows the administrator to enter journal display parameters, such as headers, footers, and navigational elements, in the public reader website.

Step 8: The Submission tab contains the Submission Preparation Checklist of all steps that an author has to complete in order for a submission to be officially deposited into the OJS system.
Step 9: The Indexing tab is an area where administrators can enter in journal description, keywords, and custom tags to aid in search engine discovery for the Journal.

Step 10: The final tab in the Settings Wizard is the Users tab. This tab allows for quick user account creation and the ability to search through user accounts currently in the system. The tab also allows journal managers to locate a user to provide access to the Journal Settings area.
**Step 11:** If Administrators ever need to return to the Settings Wizard, they would return to the Journals listing page under Administration>Hosted Journals, expand the pencil icon and click on Settings Wizard.

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**MANAGEMENT AND JOURNAL SETTINGS**

Like Administrators, Journal Managers and Editors also have the ability to configure and edit content-related information and journal metadata. The main journal settings area is situated under the Global Navigation>Management>Settings>Journal area and contains an expanded version of screens that has some overlap but also some differences from the screens found in the journal settings wizard.
Step 1: Once the Administrator has completed the bare bones setup for the journals, Journal Managers and sometimes Editors will work on further journal settings configuration under Management>Settings>Journal. This section currently holds seven different tabs with functionality that configures settings relating to the journal and its intellectual setup. The first tab is the Masthead which is similar to the Masthead screen from the Settings Wizard except that it includes an extra Mailing Address field. Unlike the Settings Wizard, this tabbed area allows the user to navigate back and forth between the various tabbed areas.
Step 2: The Contact tab under Journal Settings is also similar to the Contact screen within the Settings Wizard; however, once again there are slight differences where users can enter in additional Principal Contact information as well as Technical Support Contact information.
**Step 3:** The Citations tab contains features that allow the Journal Manager or Editor to configure the citation format used in their Journal. There are also other features available, related to citation checking and extraction that are in various stages of completeness at this time.

**Step 4:** The Sections tab is the area where Journal Managers and Editors can create various sections within their journal, such as articles, opinion and commentary, reviews, etc. The Create Section icon at the right corner of the Sections list opens a lightbox that allows users to create a section for a particular type of article, if their journal has these intellectual distinctions.
Step 5: The Policies section contains text fields that allow Journal Managers and Editors to publish Copyright, Privacy, Focus and Scope, Open Access, Review, and other policies onto the public reader interface that authors and reviewers can review prior to engaging in submitting or reviewing content for the Journal.
Step 6: The Guides tab provides a text field for the Journal to display informational text for Author Guidelines that will appear on the public reader interface.

Step 7: The Sponsor tab includes text fields for display of information on the public reader interface related to Sponsoring Organizations or Sources of Support.
USER PERSPECTIVE: ADMINISTRATOR, JOURNAL MANAGER AND EDITOR

For most journals, the creation, setup, and continued configuration of journal settings content is a shared endeavor. The three roles of Administrator, Journal Manager and Editor have overlapping tasks surrounding this creation and configuration process.

Administrators are usually in charge of the initial act of creating a journal. However, they are not involved in the intellectual development of the content and metadata for the journal. As well, the creation process for the journal settings content is a gradual process. At the point of journal creation, the administrator often only has very minimal journal information, such as a journal title or primary contact information for the Journal Manager or Editor. The majority of information is something that is developed slowly over the course of time. Additionally, the Administrators are oftentimes not co-located with the Journal Managers or Editors, so the receipt of information can be an iterative process conducted via email communication and spread out over time. Administrators prefer to fill in a minimal amount of information during journal creation and to hand off the rest of the configuration to the Journal Managers and Editors.

The Editors are usually the ones to have intellectual oversight for content elements, such as journal description, logo, staff listing and role assignments for staff members. Often, however, if they are new to the OJS system, the Journal Manager will need to assist them in inputting journal settings content into the system. Even though Editors have access to the management area for their journal, they are often consumed with editorial responsibilities outside of their interactions with the system. Editors are sometimes less technically savvy with system use so they prefer to keep their interactions with the system concentrated on discrete editorial process flow. They prefer to hand off settings information for their Journal Manager contact to configure. As well, many Journal Managers, who have the management of upwards of 50 journals within one OJS instance, consider it their responsibility to ensure the consistency of journal settings configuration across the entire instance. They prefer that the content needed for the journal’s settings is handed off to them to input into the system. Thus, Editors and Journal Managers have a need for access to a complete set of journal settings screens that have all settings consolidated into one area instead of spread into areas that only Administrators can access.

BARRIERS AND RECOMMENDATIONS

The main difficulty that users faced, when attempting to complete the journal creation and configuration tasks set to them during testing, was in finding the entry point to the journal creation area as well as understanding where the more complete journal settings area was located and how the settings inside the journal creation widget differed from the settings inside the main journal settings area.

BARRIER 1: ENTRY INTO JOURNAL CREATION WIZARD

Users found it difficult to locate the very small “Administration” link buried between the OJS logo and the Journal selection menu. As well, once they were able to locate the Administration screen, they found it difficult to find a scent trail down to the journal creation area. To them, “Hosted Journals” sometimes meant the OJS hosting service or existing journals. After reviewing all options available on the Administration page, users had a hard time locating which link would contain the Create Journal functionality. They waffled between Site Settings, Hosted Journals, System Information. Oftentimes, users would systematically click through all of the links while expressing their confusion.
**Recommendation:** Create more visibility for Administration link either through graphic treatment or placement in a different location in global navigation. Once on the Administration screen, re-label Hosted Journals so that it is more indicative of management of all journals available in instance. A label such as Manage and Create Journals might be more illuminating to users.

**BARRIER 2: USE OF PENCIL ICON**

Once on the Journals screen, users had no trouble locating the “Create Journal” icon in order to start the journal creation process. However, when asked to depart this area and return to it, they had a difficult time locating how they could return to editing the journal settings. They did not understand that the pencil icon was actually an expandable icon that would reveal features underneath that could be utilized in locating journal configuration screens.
**Recommendation:** The pencil icon is used globally throughout the site as an expandable icon button. Consider changing this icon to a more universal expand/collapse icon such as a plus and minus sign or a downwards and sideways arrow, the more universally recognized symbols for additional options beneath a label. The pencil icon is thought to be an editing indicator that allows you to edit the label.

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**BARRIER 3: TABS IN SETTINGS WIZARD**

Since many administrators only had incomplete information available to them at the time of initial journal creation, they had a hard time navigating the Journal Settings Wizard. The wizard does not allow users to navigate quickly through the various tabs in order to locate fields they could fill out with the information they had at hand. The interaction is such that even if no fields are mandatory on the screen, the user must scroll down to the bottom of the screen and hit the Continue button in order to advance to the next tab. As well, this Continue button oftentimes would appear to be grayed out. Users then believed that they could not advance in the creation process. The Continue button would also change color in an inconsistent manner. Sometimes the color would change on mouseover. Other times, it would not change at all but would allow the user to click on it without color change. Only adventurous users tended to randomly click to see if something would happen.
**Recommendation:** Allow users to advance through tabs as necessary in the Settings wizard. Also, set a more consistent interaction for Continue button use at the end of each screen. Furthermore, since users indicated that they typically have very minimal journal settings information at this point, consider scaling back on options available in settings wizard and have it truly become just a creation area. Make all other configuration settings available through the global navigation management area. Some tabs to consider removing from the settings wizard and allocating to the main Settings area are Appearance, Submission, and Indexing. These tabs contain more content-based features that are likely within the domain of the Journal Manager and Editor. Ultimately, a configurable settings wizard would be the best option so that users can select or de-select tabs according to how Administrators vs Journal Managers/Editors distribute their duties.

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**BARRIER 4: GROUPINGS FOR JOURNAL SETUP AREAS**

In the three main journal setup areas: current journal settings wizard, main journal settings area, and workflow settings area, the features and tools available are not grouped in a way that is intuitive to the user’s understanding of the various setup areas required to configure the journal. From the users’ perspectives, Journal Managers and Editors view journal setup as logically split between settings for intellectual journal metadata, configuration of the interaction between editorial users and the editorial components of the system, and website configuration for public interface reading and discovery. For example, users were not expecting appearance or indexing configuration in the initial journal settings wizard. They believed that website configuration details were better served in a later part of the journal setup process. Another example, users were not expecting public interface discovery (Indexing tab) or journal web content (Production tab) in the workflow area.

**Recommendation:**

Users indicated that they need more in-context guidance as they step through the journal configuration process. The wizard idea for the initial journal creation process is a good construct for providing this guidance. However, separate wizards for each major settings sub-area that are designed with a clear step by step guide will give users the clarity they need to work through these areas. We recommend running a card sort exercise with users to have them help in re-designing the groupings for each configuration area. This exercise could also involve development of labeling that would be more intuitive to them for each sub-area. This type of user engagement exercise is a design exercise meant to be generative in nature rather than evaluative. Thus, this was an out of scope activity during the evaluation project. However, we recommend it for the design phase still to come.

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**WORKFLOW CONFIGURATION**

The workflow configuration is an area where Journal Managers regulate settings for some of the users’ interactions with the system during the editorial process. Administrators and Editors also have permission to access this area. Each journal has its own workflow management area that is accessed via the global navigation. Journal Managers and Editors can access this area if they are associated with the journal, while Administrators have permission to access this workflow management area across all journals. All journal workflow areas allow users to edit Content Genres, Submission Guidelines, Indexing, Review, Documents (associated with steps in a workflow), Email Templates, and Production information.

*Skip process screens and go directly to user perspective.*
Step 1: Once the desired journal is selected, the Workflow section for that journal can be accessed via the global navigation under Management>Settings>Workflow.

Step 2: Under Workflow Settings, the first tab contains Genres or Article Elements that users can apply as category labels for submission files. Here users can edit which genres will appear in the drop-down menu when a user is uploading a file. The user can also add or delete genres here.
Step 3: In the Submission tab, the user will find the Submission Preparation Checklist which is a list of actions that an Author must comply with and agree to before they submit an article to the journal.

Step 4: In the Indexing tab, the user will see a form for indexing the work in the journal. This serves as the place where they can put in subject classification and discipline information for articles in the journal’s submission process.
Step 5: In the Review tab, the user will see the External Reviewer options. The page includes such parameters as the length of the review, review reminders for the Editor or Journal Manager, review guidelines, competing interests, how the review process will work, and other reviewer options.
**Step 6:** In the Publisher Library tab, the user can place associated documents (such as author agreements) that Editors, Journal Managers, and Authors are able to access this area directly from the editorial process at various points. The Publisher Library shows up in the editorial flow under the Submission section (for Authors) and under the Galleys section (for Editors and Journal Managers).
Step 7: In the Emails tab, Editors or Journal Managers can find templates for the email header and signature which will show up on all emails that are sent from the Principal Contact of the journal. This section also includes emails about notifications, acceptance, rejection, and the editorial process of submissions. In this section, users can also edit all prepared email templates in the OJS system. These emails are utilized at the various points of the editorial process.
**Step 8:** In the Production tab, users can edit information that will appear in the About section of the journal’s public reader user interface.

![Workflow Settings](image)

**USER PERSPECTIVE: ADMINISTRATORS, JOURNAL MANAGER AND EDITOR**

All journal administrative and management teams that we interviewed had different publishing processes; even journals within the same institution had varying practices. These differences are due to disparate domain requirements and staffing and resource configurations. Some journals used all components of their publishing system, while others only used the system to upload PDFs and publish final documents. More common are the journals that want to be able to pick and choose the sub-components of the editorial process that they would like to utilize. For example, one journal might choose to use the submission component and the external review process, but then conduct all copyediting with a third party vendor and publish on another platform all together. Therefore, a configurable system, where Administrators, Journal Managers, and Editors can utilize various components as they see fit, is of the greatest valuable.

For Journal Managers and Editors, setting up the journal includes working with the journal setup information and then working with the management of the workflow components of the journal. They equate managing “workflow” with managing the details of how users will interact with the publication process. During testing when participants first saw the term “workflow” in the interface, they pictured an area under settings where they could see the complete editorial process laid out in front of them and be able to configure workflow elements they would want to include in their process. They envisioned that the system would give them a default backbone for how the editorial process could work and then they would be able to add, subtract, select, hide, and perhaps insert customized parts of the system in order to better tailor the process to their individual needs.

Journal Managers and Editors were interested in connecting and clarifying information that defined how various roles and users would interact with the various components of the workflow so that role assignment would be easier to define and assign to each component. Some editors wanted the flexibility to be able to configure workflows so that only certain users can see certain parts of the workflow.
BARRIERS AND RECOMMENDATIONS

The majority of the user pain points in the Journal Workflow management area stemmed from the disconnect between what is available under the Workflow management area and the user’s expectations of what should be under the area based on their understanding of the word “workflow.”

BARRIER 1: WORKFLOW EXPECTATIONS AND DESIRED FUNCTIONALITY

The Workflow section of OJS does not pertain to the creation and editing of the editorial workflow process. Editors and Journal Managers were expecting to be able to select, delete, or at least hide sections of functionality in the editorial process. When users were asked to explore the Workflow Settings area during testing, they generally expressed that not only did it not contain what they had envisioned but that it contained items that they did not associate with workflow. They expected an area where they would be able to configure the various parts of the editorial system and give or take away access to users. Instead, they found what they perceived to be general journal settings.

Editors and Journal Managers found no way to create or edit the workflow of the journal.

Recommendation:

The following recommendation is a wishlist of items that would require design and development of additional functionality.
• Create a true workflow settings area that allows users to see the entire OJS editorial process broken into components (submission, external review, copyediting, final draft, production ready, galley, and publication sections).

• Allow for a selection mechanism so that these sections can be made available to different user roles at a journal level as well as a system level.

• Provide a connecting link from the Workflow area into the User Account and Role creation area so that Editors and Journal Managers can go back and forth between understanding which users and user roles can interact and view various parts of the workflow. Or perhaps integrate the User Account and Role Creation space with the Workflow space since in the users’ mental model these two functional areas are intertwined in terms of the tasks they have to conduct in granting permissions and managing access to parts of the editorial flow for their users.

[Note: There is an area under the Roles tab in Management > Settings > Users & Roles that looks like it could accommodate the need for restricting certain role access to parts of the workflow, but the intention of this functionality was not immediately transparent and when road-tested by the CDL UX team after testing was completed it did not successfully restrict user access to workflow areas.]
As stated previously, the sections under the Workflow area did not align with the user’s understanding of what the workflow section would contain. However, the users did find the existing features necessary for setup purposes. Many of the features in the Workflow area were settings that needed to be configured before journal content could move through the editorial process successfully. Users were expecting that these settings would be found under one general Journal Settings category—not split into Settings > Journal and then Settings > Workflow. When tasked with editing the Submission Guidelines, the majority of users went to the Settings > Journal area first because they thought that it was the default general Settings area. While some Journal Managers and Editors do work with the system on a daily basis, their primary work duties do not involve constant interaction with the system. Thus, if they enter the system attempting to quickly locate a desired setting feature and the settings are sub-divided and labeled with words that do not align with their understanding of the word, they would spend extraneous time looking for the appropriate settings location.

**Recommendation:** Most of the tabs under Workflow Settings (Genres, Submission, Review, Publisher Library, and Emails) should be moved to a general Journal Settings section and combined with the items currently found under Settings > Journal.

Since many journal setup and settings tools need to be configured prior to journal launch, these features should be placed under Journal Settings and laid out in a step by step fashion that makes it clear to the Journal Manager and Editor which tasks need to be completed before the journal can begin to function. As suggested in the Journal Settings findings area, consider creating separate wizards within this area to address metadata, interface guidelines, and public website configuration.

The Workflow Settings area do not meet Journal Managers and Editors expectations for workflow management capabilities. Also, Journal Managers and Editors are not clear as to what things they need to edit/create before Authors start submitting their work. There is no clear list of tasks.
Throughout the OJS editorial process and on the user interface, “Article Elements” is the label used to identify content types for documents that are uploaded to OJS. The first tab of the Workflow Settings allows users to edit these content types. However, inside this tab the “Article Elements” are identified with the label “Genres.” Users found the terminology confusing and did not comprehend that the two terms were equivalent.

Also, the items within the “Article Elements” pull down menu appear in different orders in the various upload areas scattered throughout the system. The lack of consistency made users believe that they were encountering a different pull-down menu each time they uploaded a document. This difference caused users to pause and become confused as they were attempting to complete the upload activity.

Users also did not fully understand the meaning behind many of the items within the Article Element menu. They were concerned that it would impact the review process of the article if they labeled it incorrectly or inconsistently.

Recommendation:

- Institute one term for document types to minimize confusion for all OJS users. Include in-context help such as a pop-up menu with examples or definitions for each content type so that Editors or Journal Managers can institute the Article Element types that are most appropriate for the discipline or domain of their journal.
- Institute one menu item order for all upload menus implemented across the entire system.
Users did not understand what “Article Element” means.

Users do not understand all of the terms. No descriptions are available.

Article Elements / Genres appear in different orders at when completing same upload task.
The Publisher Library is used to hold associated documents that can later be quickly accessed during the editorial process. The Publisher Library can be accessed in the editorial flow under the Submission section (for Authors) and under the Galleys section (for Editors and Journal Managers). For example, an Editor could upload author agreement documents to the Publisher Library, and then the Author could download the document from this Library at the time of their submission. Editors and Journal Managers did not understand this concept without an explanation and furthermore did not understand what sorts of documents they could place here simply by viewing this section on its own within the Workflow Settings.

This area was also named in two different ways in the interface—Publisher Library and Document Library. In particular, Authors did not understand what “Document Library” meant and how it differed from the content they were submitting. The label did not indicate to them that they could access an Author Agreement or other relevant documents.

Recommendation:

- While separate user documentation may assist Journal Managers in understanding how the Publisher Library can be utilized, inline instructions on the use of this area both under Workflow Settings as well as within the Submission and Galley areas will cut down the amount of time it would take for users to search for clarifying information in user documentation that is usually located off-site.
- If items within the library are crucial to the editorial process, then Document Library should be re-labeled and added as an official step to the submission process so that Authors know that they need to go to the Document Library for pertinent information.
USER ACCOUNT SETUP AND ROLE ASSIGNMENT

USER ACCOUNT SETUP AND CONFIGURATION PROCESS

When user accounts are set up in OJS 3.0, they are set up in association with a journal and given a role with certain content and functional access privileges. Author and Reviewer accounts can be self-created via a public interface registration process. However, user accounts for Journal Managers need to be created by the Administrator. Editor accounts can be created by either the Journal Manager or the Administrator roles. In this current version of OJS, Administrators can access settings functionality across all journals but cannot access content unless they are assigned Editor privileges for that journal. The same is true for Journal Managers.

Once an account has been created for a user, it can then be assigned a role within its associated journal. User accounts although initially created at the journal level are also available as an account at the system level for role assignment to other journals within the instance. If a Journal Manager or Editor from a different journal wants to assign a current user for one journal to another journal, they have to use a search mechanism inside the user account area. Thus, user accounts are available to system managers at the journal level as well as the system level; their roles and functional access is determined on a journal by journal basis.

At times during the editorial process, there are also certain roles that need to be configured and assigned through additional steps within the Journal Settings area at the article level.

Skip process screens and go directly to user perspective.

Step 1: In order to find the Users & Roles settings section of a journal, the Journal Manager or Editor would first sign into the journal in OJS. If there are multiple journals within an OJS instance, the user would need to ensure that they had selected the appropriate journal’s name from the selection menu before locating the Management section within the global navigation.

Step 2: The next step would be to navigate to the top menu and select Management.
Step 3: Then navigate to Settings, then select Users & Roles.

Step 4: The user is now in the Users & Roles section of the journal and can view the three tabs under that section: Users, Roles, and Site Access Options. In the Users tab, the list that appears in the second half of the page includes all current users associated with a particular journal.
The Journal Manager or Editor navigates to the Users tab of the Users & Roles section to add users to the journal, give users roles and privileges, and add new users to OJS.

**Step 1:** To add a new user to the OJS system, the user clicks the "Add User" button to the right of "Current Users." Here they can register a new user to the entire system and send them an email with the information that allows them to access OJS and further configure their own account. Journal Managers and Editors do need to set a user’s role prior to the user’s first interaction with the system.
Another way for users to be added to a journal in OJS is for them to self-register. Next to the journal’s login link, there is a Register link. When a user clicks that link, they get the registration signup form.
It is important to note that when an Author, Translator, or External Reviewer registers, the Editor of the journal does not receive a notice of that registration. Authors register in order to be able to submit an article (which the Editor IS notified of), and Translators and External Reviewers usually register because they were invited to register by someone working with the journal.

A user can self-register as either an Author or Translator and then both roles can also be External Reviewers.

**Step 2:** After a new user account is created by the Journal Manager or Editor within the User & Roles area, a new window pops up to assign the new user a role within the journal. A role MUST be given to the user in order to add the user to OJS.
Step 3: From the Users tab, the Journal Manager or Editor can also search the entire OJS instance for existing users by name and more specifically by the role that the user holds (if they have one. Users can hold one or more roles within the system and within journals.)

Step 4: If the Journal Manager or Editor wants to search for users that are in OJS but not associated with their currently selected journal, they need to check the "Include users with no roles in this context" checkbox.
**Step 5:** Once a search is successfully executed for a user account, the resulting list takes the place of the list of current journal users below the search box.

**Step 6:** In order to add that user to the current journal (remember that the user should already have a role within another journal) the Journal Manager or Editor would click the pencil icon to the left of the name and then select Edit User. From this view, they can also email users, disable a user, remove a user, login as a certain user, and merge that user with another user (this is OJS’s way of deleting a user but keeping all their files in the system - the files belong to the user that they were merged into and the “deleted” account disappears).
**Step 7:** The Edit User pop-up menu is the same form as the Create User menu with existing user information pre-populated within the form.

**Step 8:** Journal Managers and Editors can add roles for the user in the bottom area of the form.
It is important to note that role assignment at the journal management stage is usually enough for users to be able to accomplish all the tasks they need to do, however some article-level tasks require further role assignment under the Participants section at the article-level (This additional role assignment is necessary for secondary roles such as auditors, copyeditors, etc.).

**Step 9:** In order to see that the user has been added to the journal, the Journal Manager or Editor must clear the search bar and click the Search button so that the user list refreshes and all Current Users in the journal show up.
The Journal Manager or Editor uses the "Roles" tab of the Users & Roles section in order to create new roles and privileges and edit existing role privileges at the journal level. This area can ostensibly allow certain user roles access to various parts of the editorial workflow process. Role configuration should be set up prior to user account creation.

**Step 1:** The Journal Manager and Editor can view which areas of the editorial process can be accessed by various roles. New roles can be added or edited to each section to give them more or less access and privilege to the editorial workflow process.
Most roles are setup under the Roles tab of the Users & Roles section with the exception of the Section Editor role. The Section Editor needs to be added at the Users tab like all other users. However, the Section Editor role must be assigned to a specific section once the section is created under Management > Settings > Sections. Once that step is taken, the Section Editor’s name will appear under Participants for all articles that are placed in the section they have been assigned to.
Step 2: In order to edit a role under a section, the user would click the pencil icon next to a role and select "Edit."

Step 3: The user can now edit the permission level, role name, abbreviation and which stages of the editorial process they can access. A user can have access to the Submission, the External Review, the Editorial, and/or the Production areas within the entire editorial process.
Step 4: In addition to editing existing roles, new roles can also be created using a similar form as the Edit Role pop-up.

USER PERSPECTIVE: JOURNAL MANAGER AND EDITOR

Journal Managers or Editors are the roles mainly responsible for setting up user accounts and role assignments for a journal. The decision-making for the user role privileges usually belongs to the Editor with the Journal Manager carrying out the configuration tasks or educating the Editor on how they can carry out the tasks.

As part of the journal setup and configuration process, Journal Managers and Editors want clear step by step instructions on how to set up permission levels prior to creating user accounts. Since there are many levels of roles that interact with the system differently, Journal Managers and Editors would prefer to have one streamlined area that they can go to in order to see all the various levels of roles within in the system and decide how to allow these roles to interact with each other and the various parts of the editorial process. Since this is a very complicated task, the set-up and creation process for these roles should be as simple as possible.

After roles have been configured, the Journal Manager or Editor will start to add additional users that will be assigned specific roles. In order to do this, they need a macro view of all the users and their related roles in a given journal so that they can then manage the micro-level editorial tasks that each individual user will be involved in. This would lead to a continuity of their understanding and ability to manage user accounts and subsequent editorial assignments at the article level.

BARRIERS AND RECOMMENDATIONS

The biggest overall pain point in the Users & Roles section of OJS is the lack of clarity surrounding how roles are created and utilized, how users are added to OJS, and how users are added to a specific journal within OJS. User accounts exist on two levels within the OJS system—at the journal level and at the system level. In the interface, this idea is opaque to the user in many different ways from use of labeling, lack of contextual, in-page definition or instruction, as well as lack of overall macro level viewing for user accounts and their associated role assignments.
The role assignments allow users access to different areas of the OJS system and the ability to perform different activities within those areas. The levels of access for major roles within the editorial process are depicted in the Roles tab. However, the tasks associated with a particular role are not defined in this area. Thus, Journal Managers and Editors are unable to quickly identify the appropriate role to assign a user because they do not know which activities are associated with each user role. This is true for both commonly known roles, such as Author or Reviewer, and for lesser known roles, such as Auditor or Translator.

Many phrases used throughout the Users & Roles process are technical OJS terms, such as “Include users with no roles in this context.” This phrase is a crucial piece of information which allows a user to conduct a search for users within the entire OJS database and find users that do not have a role in the current journal but have an account in the system. “Merge Users” is a phrase that allows editors to merge one user into another thereby deleting the first user’s account but keeping all of their work in the journal attributed to that second user. The word “merge” and the ramifications for what the merging would do was something that the users did not recognize. As well, the heading “Current Users” on the initial Users tab did not help users understand if they were looking at a list of users at the system level or the journal level. They were uncertain how the user list related to their journal.

Some small editorial tasks are unassigned until the Editor is working through the management of an article at the article-level via the Participant’s menu. This is confusing for the Editor since they have no context to understand when an activity assignment is occurring at the journal level or at the article level. As well, the Section Editor’s role configuration is initiated beyond the Users & Roles area all together.

**Recommendation:**

- Terminology needs to be re-written changing technical OJS terms to more user-centric, layman’s terms. For example, “Include users with no roles in this context” could become “Include all users in system not constrained to this journal.”
- Small in-context glossaries, term definition, or instruction would also help users as they are working in the system interface without having to break from the task at hand to look up answers in off-site user documentation.
- The roles and levels of access to various stages of the editorial process need to be explained more comprehensively so that Journal Managers and Editors do not waste time trying to figure this information out on their own. A step by step clear visual on distinctions and relationships that roles play within the system and with each other would be helpful for Journal Managers and Editors as they configure roles and role assignments in the initial journal setup process. This area, more than any other journal settings, would be helpful for users if presented in a setup wizard.
- If small tasks are going to remain assigned in editorial flow at the article level (using the Participants menu), then they need to be tied back to the major user account area with common visual icon cues and labeling consistency. The same goes for the assignment of a Section Editor. This functional tangent needs to be brought back to the main user account area so that the Journal Manager and Editors can see all users and their roles in one place.
- For all journal settings and management pages, it would be helpful for users to have a more prominent visual reminder that they are working within the settings for a particular journal. Currently, the small journal pull-down menu in the left corner of the global navigation is not visible enough and users sometimes think they are configuring settings and user roles for the entire system as opposed to a specific journal.
Roles and levels of roles are never properly defined in interface.

Not clear what the Merge function does.
Journal Managers and Editors spent a lot of time adding roles and permissions, often re-clicking buttons and re-doing tasks that were started incorrectly because of the lack of understanding for some of the labeling and use of iconography in this area.

- Users did not understand that “Adding an Item” referred to adding roles to users.
- Users did not expect that the pencil icon would expand a sub-menu of functionality underneath each username. The pencil icon is often used twice in lists within OJS once for expanding a sub-menu and another time for editing information within the sub menu beneath each user. This inconsistent use of the pencil icon caused confusion on more than one occasion for users.
- Journal Managers and Editors are uncertain if the terminology “Add Users” will add users to the system level or to the journal level.
- When Journal Managers or Editors wanted to give users roles, they did not think to “Edit User” because that sounded like they were going to edit the user’s personal account information.

Recommendation:

As referred to in the Workflow Management section, the roles and permission process should be re-designed in a way that allows Journal Managers and Editors to see a visual representation of how the roles of users relate to the actions that they can partake in within the journal and editorial processes. The role assignment area at the bottom of each User Account form should be more visually cordoned off or numbered so that Journal Managers and Editors are aware that the assignment functionality is available in that window. They should also be able to see the roles that are assigned to the users under “Current Users” list as well as be able to sort them by categories such as date added, role, and last active. This information should be provided to them at a glance in a more expanded user list view.
Not clear that users need to click the pencil icon in order to add a user to the journal by particular role.

Note: In our test names, we inadvertently added the user’s role as a last name. However, upon testing, we became aware that users did not have a way of seeing at a glance the user role(s) associated with a particular user in this list.

Not clear that users need to click this in order to get the screen that allows them to add roles to that user.
BARRIER 3: SEARCHING FOR SYSTEM-WIDE USERS

Under the Users tab, the display of the “Current Users” list is replaced by the search results list for users found via the search box at the top of this tab. The only way that users could go back to the original list of users for a specific journal was if they cleared out the search box and enter in the blank search query. This was an interaction that the user did not understand that they had to complete in order to get back to the current list of users.

Recommendation:

The Users & Roles section needs to be laid out all at once in a chart view so that Journal Managers and Editors can recognize and connect users with roles at the journal and system levels. The search and search results area layout should be re-designed for more clarity so that users can move from the search field into the journal’s current users’ list with more ease. Perhaps add labeling that indicates a user can search for users or browse for users. Add a return to current journal’s user list button or link.

Terminology needs to be as clear as possible. For example, “Current Users” could become “Current Journal Users” to clarify that the current users are from the journal – not OJS. The journal name could also appear next to the search box, so that the users are aware that they are searching within a journal as opposed to the entire system.
On the registration screen, where users can register themselves into a journal, there are two issues.

The first is that users can register as an Author or Translator, but then both can also register as an External Reviewer. Besides the radio buttons for choosing Author or Translator and a checkbox for adding the role of External Reviewer, there is no commentary regarding this sign-up functionality and users do not understand that the radio buttons and the checkbox indicate that you can be both an Author and an External Reviewer or a Translator and an External Reviewer. Also, the editor of the journal does not receive email notification when someone self-registers. This notification is more important in the case of a potential reviewer using the self-registration process, since editors need to be aware if a reviewer that they had recruited off-line is now available for assignment of work within the system.

Recommendation:

- The self-registration page for a journal needs more explanation on how to register for certain roles and what that would allow the user to do in the future.
- Editors need email notifications when users, especially reviewers, register with the journal. Authors may register without notifying the editor of their registration within the system, since their interactions with the editor is initiated once they submit an article. The best option would be to allow editors the ability to configure how they receive email notification for new user registration.

Wishlist:

- At times, Journal Managers and Editors would like to be able to contact multiple users with one email announcement. Right now, they are only able to email one user at a time. If there is a message that needs to be sent to all authors in the journal, the Journal Manager or Editor would need to email each author individually. The ability to email groups of users would be a time-saver for Journal Managers and Editors.
- Administrators need a place to view all users in the OJS system (and all the journals and roles that they belong to) in case trouble-shooting is necessary. For example, a user may have duplicate accounts or have access difficulties for one or more journals. This would allow administrators a place where they can access all users more effectively than having to search or browse within each journal individually.

- Cordon off each journal's users. OJS's default implementation treats all users as a single pool from which any journal in a particular instance can select users to add to their journal. This can be problematic if one journal is making changes to another journal's user information. User details for each journal should be maintained separately and any changes made to a common user account for one journal should not be propagated to the other journal. For example, it could be problematic, if one journal were to delete a user account that is being shared with another journal.

No way to email multiple users by choosing which ones to email. No way to email multiple users based on a certain criteria: role type, dates active, Journals they are part of, etc.
DASHBOARD

DASHBOARD OVERVIEW

As depicted in the findings overview, the dashboard is the main artery that takes users down into article-level content that is associated with their user-based login credentials. Thus, the usability and accuracy of the data that is presented in this area is crucial to the successful completion of any editorial-based tasks involving submitted articles.

The dashboard is split into three tabbed areas: Tasks, Submission, and Archives.

Skip process screens and go directly to user perspective.

**Step 1:** Tasks: This section displays a queue of all editorial tasks that the logged in user must complete.

**Step 2:** Submissions: The Submissions section displays three separate queues with “My Authored Submissions,” “Unassigned Submissions,” and “Assigned Submissions.” My Authored Submissions contains articles that the logged in user has submitted as an author. In an active journal, if there is more than one editor attached to a journal, new submissions will arrive in the Unassigned Submissions queue. Once the submission has been accepted to undergo a review process with the journal and it is assigned to another editor or section editor, the submission will move into the Assigned Submissions queue.
### My Authored Submissions

<table>
<thead>
<tr>
<th>Journal</th>
<th>Authors</th>
<th>Article Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polar Research</td>
<td>Editor</td>
<td>addgsadg</td>
<td>In Review</td>
</tr>
<tr>
<td>Terror and Other Hysterromatic Movements</td>
<td>Editor</td>
<td>Untitled</td>
<td>Incomplete</td>
</tr>
<tr>
<td>Statistics and Math</td>
<td>Editor</td>
<td>addgsadg</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>The Western Journal of Emergency Medicine (WestJEM)</td>
<td>Editor</td>
<td>Medicine in a New Era 1 &amp; 2</td>
<td>Awaiting Editor Decision</td>
</tr>
</tbody>
</table>

1 - 4 of 4 items

### Unassigned Submissions

<table>
<thead>
<tr>
<th>Journal</th>
<th>Authors</th>
<th>Article Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Journal of Two Section Editors</td>
<td>Author</td>
<td>A Journal of Two Section Editors Article #1</td>
<td>Unassigned</td>
</tr>
<tr>
<td>Journal To Test Unassigned Section</td>
<td>Author</td>
<td>Article to Test “Unassigned” Section</td>
<td>Unassigned</td>
</tr>
</tbody>
</table>

1 - 25 of 50 items 1 2 3 4 5

### My Assigned Submissions

<table>
<thead>
<tr>
<th>Journal</th>
<th>Authors</th>
<th>Article Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>The way to go through it #1</td>
<td>In Proofreading</td>
</tr>
<tr>
<td>A History in Review</td>
<td>Author</td>
<td>Article #2</td>
<td>In Review</td>
</tr>
<tr>
<td>A History in Review</td>
<td>Author</td>
<td>Article #3</td>
<td>In Review</td>
</tr>
<tr>
<td>Administering Strict Rules</td>
<td>Author</td>
<td>Article #1</td>
<td>In Review</td>
</tr>
<tr>
<td>Administering Strict Rules</td>
<td>Author</td>
<td>Article #2</td>
<td>In Review</td>
</tr>
<tr>
<td>Administering Strict Rules</td>
<td>Author</td>
<td>Article #3</td>
<td>In Review</td>
</tr>
<tr>
<td>A Guide to Editing Stories</td>
<td>Author</td>
<td>Article #1</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>A Guide to Editing Stories</td>
<td>Author</td>
<td>Article #2</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>A Guide to Editing Stories</td>
<td>Author</td>
<td>Article #3</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #1</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #2</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #3</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #4</td>
<td>Awaiting Editor Decision</td>
</tr>
<tr>
<td>Technology Innovations in Statistics Education</td>
<td>Author</td>
<td>Getting Real Statistics Into all Curriculum Subjects Articles Can Technology Make this a Reality?</td>
<td>In Review</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #6</td>
<td>In Review</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #7</td>
<td>In Proofreading</td>
</tr>
<tr>
<td>Authoring The Best Stories</td>
<td>Author</td>
<td>Article #8</td>
<td>In Proofreading</td>
</tr>
<tr>
<td>A Journal of an Editor and a Reviewer</td>
<td>Author</td>
<td>A Journal of 1 Editor and 1 Section Editor Article #1</td>
<td>Awaiting Editor Decision</td>
</tr>
</tbody>
</table>
Step 3: Archives: This section displays a queue of published and declined submissions. If a submission is declined for consideration, the submission will move into the Archives queue. Also, all submissions that have successfully gone through the editorial process and been successfully published in the journal will also be listed in this queue.

Users, who have primary interaction with submitted content, are editors, authors, and reviewers. Editors are primarily concerned with knowing what their next tasks are within the editorial process. They can have a range of submitted articles that they are responsible for shepherding through the editorial process. They need to know if a new submission has arrived in the system, whether or not a fellow editor or section editor has been assigned to manage the article’s editorial process, and whether or not a reviewer or author has completed work on a particular article. Many editors do not log into the system on a daily basis. They conduct many of their work responsibilities outside of a publishing system. When they do have tasks that they are responsible for they prefer an email notification to serve as a reminder that they have tasks to complete within the system. They often prefer to save up a number of tasks and enter into the system to work on them in one sitting as efficiently as possible. If no outstanding task is currently assigned to them,
they do want to be able to monitor and check content status for their submissions. They want to be able to quickly understand where articles are within the editorial process. They want to know if articles are currently in review, in copyediting, or being prepared for publication in the production stage. Knowing the dates for all content-related activities (when an article arrives in the system, when the article has been sent out for review, etc.) is an important piece of information for them to have in order to be able to complete their content oversight duties.

Authors have concerns that are similar to editor concerns except they only have them for their own submissions. They want to understand the status of their submission- whether the article has been accepted for review, if the article is undergoing review, if they need to complete additional work on the article to be officially accepted as a publication, etc. If they have an assignment, they want to be notified as soon as possible.

Once a reviewer has made a decision to conduct a review for an article, they are primarily interested in understanding what the article review’s due date is and how to submit their review materials. Also, some reviewers indicated that they might be interested in knowing how many articles they’ve reviewed for a particular journal so they can track their review work over the course of a year.

**BARRIERS AND RECOMMENDATIONS**

Overall, the dashboard construct is a useful and sound display mechanism for browsing and locating submission content. However, the details of the design caused users some frustration as they attempted to locate articles and next tasks.

**BARRIER 1: LOCATING KNOWN ITEMS**

While the dashboard is good at displaying what a particular user’s next tasks are according to the system status for a particular piece of content, the dashboard was less successful when users were expected to locate and troubleshoot known articles or submissions. The various queues and sections within the tabs were often difficult to navigate and locate known content by author name or title. This difficulty in navigating the various sections was especially apparent when lists became long and the content spread across a number of pages.

**Recommendation for New Feature:**
Currently, in the global navigation, there are two search boxes. Users intuited that the search box in the left column searched over published content on the website. However, due to the placement of the search box in the upper right hand corner, some users expected this box to search content that was displayed within the tabs of the dashboard. Currently, this search box does not search content found within the dashboard construct. It is instead a duplicate search box for published content available via the public reader interface. However during testing, users would gravitate towards this search box instead of trying to scan through the long lists found within the tasks, submissions, and archives tabs. Thus, we recommend that in addition to the browsing available via the dashboard, that a search box be implemented so that users can quickly discover known items.

**BARRIER 2: DASHBOARD DESCRIPTION AND EMAIL NOTIFICATION TITLES**

The usefulness of the dashboard hinges on the user’s ability to understand the task and status descriptions next to a submission title. Users are usually coming into the system after receiving an email notification. Task descriptions do not always match titles in email notifications. As well, status descriptors on the submissions tab did not always match the status for a submission within the editorial process. For example, during testing when users had taken an article through the external review stage and moved it into the copyediting and production stages the status description would still read “In Review.” To the user, this appeared to be a system error and caused them to doubt if the dashboard was reflecting the correct state of an article.

**Recommendation:**

We recommend that a consistent mapping matrix needs to be created that maps email titles and default communication text to align the wording for dashboard status and task description. Or at the very least, if email titles, dashboard status and tasks descriptions cannot be reconciled by the development team, then users would like a way to edit the email titles and status descriptions themselves.

**BARRIER 3: SUBMISSION TAB DESIGN**

On the Submissions tab, editors were not expecting to find their authored submissions in this tab. They expected that the tab would only include submissions that they were managing through the editorial process. They expected their own authored submissions to be located in a different area.

Users also found pagination in this area difficult to use since initial layout of the pagination for a queue was spaced in such a way as to be closer to the section below it instead of the list that it controlled.

Editors also had trouble understanding when an article would appear in the Unassigned queue versus the Assigned queue. In the current design, submissions appear in the Unassigned queue only if there are multiple secondary editors assigned to a particular journal. If there is only one editor or pre-designated section editors, the content is automatically placed in the Assigned queue. Users explained that no matter what the editorial staff configuration their understanding of Assigned vs Unassigned was that the Unassigned queue should contain all newly submitted items whether or not there is one editor or a multitude of pre-designated editors.

**Recommendation:**

- Take My Authored Submissions queue and place it in a separate tab in the dashboard construct.
- Move the pagination mechanism so that it is situated closer to the queue that it controls.
• Reconcile the way that new submissions are displayed in the Submissions tab so that all new submissions appear in the Unassigned queue first.

**BARRIER 4: ARCHIVES TAB DESIGN**

Users were able to anticipate that the Archives tab would contain material that had either been declined for publication or had already been published. One major concern though from the UX team is that if the journal has a particularly heavy amount of published articles that the current design for the Archives tab does not allow for easy filtering or location of already published items that might require troubleshooting.

**Recommendation:**

Add a filtering mechanism to allow users to sort between items that had been declined or published. An ability to search the content within this queue would be an effective tool for Editors or Journal Managers in locating known items for troubleshooting questions.

**EDITORIAL PROCESS**

In OJS 3.0, the entire editorial process is comprised of four major areas: submission, external review, editorial, and production sections. We have split barriers and recommendations into two main groupings for submission and external review and for editorial and production areas.

**Skip process screens and go directly to user perspective.**

**SUBMISSION**

**Step 1:** In order for an Editor to see a newly submitted article, they go to the Submissions tab on their dashboard and browse through all the articles under “My Assigned Submissions” (as the Editor, they are automatically assigned to the article) and search for a new submission with a status of “Awaiting Editor Decision.” They do not receive a notification of a new submission nor a task of a newly submitted article on the Tasks tab. Once they locate a new submission, they click on the title to access the content.
Step 2: After the article link is clicked, the Editor is dropped into the first stage of the editorial process: the Submission area. Here the Editor can download the article for reviewing by clicking on the title of the article. If the Editor decides to accept the article for official review, they can send the article off to external peer-reviewers for (usually) multiple rounds of feedback. In order to do this, they click the Send to External Review button.

Step 3: Now the Send to External Review lightbox pops up. Here the Editor chooses which files to send to external review. Reviewers are assigned later and will receive the files chosen at this stage.
Step 4: After files are chosen for external review, the Editor is placed on the second stage of the editorial process: External Review. Under the second section of the page “Reviewers,” the Editor clicks the Add Reviewer button to allow Reviewers to access the files that they selected from the previous step.
Step 5: The Add Reviewer lightbox pops up and the Editor has four different options for choosing a Reviewer: They can type into the “Start Typing” box which auto-completes for names of users that already have an External Reviewer status (via Management > Settings > Users & Roles), or they can choose to do an Advanced Search, Create a New Reviewer, or Enroll an Existing User. Create New Reviewer allows the Editor to create a new OJS account and add that user automatically as an External Reviewer to the journal. Enroll Existing User allows the Editor to find another user within the journal and add them as an External Reviewer.

Advanced Search allows the Editor to view statistics of existing Reviewers as well as use a few other criteria in a search.
Create New Reviewer

Enroll Existing User
Step 6: In this example, we’re going to add an already existing External Reviewer named Val Reviewer. The Editor starts typing in their name and they pop up as a possible choice.

Step 7: After selecting Val Reviewer as the External Reviewer, the Editor can edit the email to be sent to the reviewer (which uses the email template from Management > Settings > Workflow > Emails), select the correct dates and review type, and then send the request off to the Reviewer.
Step 8: After the Reviewer has read the article and completed and submitted their review, the Editor will receive an email notifying them that a review has been submitted and their attention is needed. When they log into OJS, they will see this notification sitting in their Dashboard under Tasks.
Step 9: When they select the article, they are taken back into the External Review screen of the editorial process. Here they can see under Reviewers that Val Reviewer has submitted a review. The yellow notepad icon indicates that the Editor has not yet read the review. In order to access the review, the Editor needs to click that yellow notepad.

Step 10: When the Editor clicks the notepad, they see this screen where they can read the review as well access any other files that the Reviewer added. In this case, the Reviewer attached an edited file version of the article. They also added in more notes in a text field. In order for the Editor to access the full review, they need to click the “More” link under the Reviewer’s name and date the review was submitted.
**Step 11:** When they click “More,” the entire review is visible. After the Editor is done reading the review, they click the Confirm button and are placed back onto the External Review screen.

**Step 12:** Under the Reviewers section, they will see that the notepad has turned blue signifying that they accessed the review and review files. They will also see that the checkbox under Considered has become a light green. This signifies that the Editor has read the review (it turns light green upon the pressing of the Confirm button). Now the Editor needs to click the “Considered” checkbox in order to send a thank you email to the Reviewer.
**Step 13:** After the light green checkbox is clicked, the Thank Reviewer lightbox appears. Here the Editor can send an email to the Reviewer and thank them (again the template that appears is taken from Management > Settings > Workflow > Emails).

![Thank Reviewer Lightbox](image1.png)

**Step 14:** After the Editor sends the thank you email to the Reviewer, the “Considered” box is now checked as complete.

![Considered Checkbox](image2.png)
If the Editor has received all the reviews they want, the next step is to ask the Author for a revision of the article, which is done by clicking the Request Revisions button at the top of the page.
**Step 15:** After clicking the Request Revisions button, the Request Revisions lightbox appears. Here the Editor can add reviews to the email and/or attach the Reviewer’s documents.

**Step 16:** In the screenshot below, the reviews from the Reviewer have been added at the bottom of the email and the Reviewer’s document with more comments has also been attached. After those steps are done, the Editor clicks the Record Editorial Decision button to send the email along to the Author.
Step 17: After the Author has reviewed the Editor’s and Reviewer’s comments, they make their changes and resubmit their article. The Editor gets an email notification of this as well as a notification on their Tasks tab in their Dashboard that tells them of an uploaded revised file.

Step 18: Clicking the revised file notification takes the Editor to the External Review screen where they see under the third section Revisions that a revised file has been uploaded by the Author.
Step 19: Next to the revised file are checkboxes for the Journal Manager and Editor to check after they have read the revised file.

Step 20: The Journal Manager has read the revised file and checked the box. Unfortunately there is a bug in the system right now that does not allow the Editor to check that they have read the file.

Step 21: Since the Editor could not check that they read the revised file, the “Notification” blue rectangle remains at the top of the page. But now let’s pretend that the Editor has read the revisions and is happy with the article. The next step would be for the Editor to accept the submission so they click the Accept Submission button.
Step 22: Accepting the Submission brings up an Accept Submission lightbox where the Editor sends another email to the Author about the decision to accept the article.

Step 23: Pressing the Record Editorial Decision sends the email to the Author and moves the Editor onto the Editorial page where the Editorial tasks can now begin.
USER PERSPECTIVE: EDITOR FOR SUBMISSION AND EXTERNAL REVIEW

When Editors are working with an article during the initial submission and external review stages of the editorial process, their main goal is to take in content and send it back out for review with as easy an interaction as possible. They are often simultaneously juggling management of a number of articles all at various stages of the editorial process. They are also passing the article back and forth between the Author and the Reviewer sometimes for multiple rounds of review or revision. In order to help them maintain control over this complicated process, they need to be able to view at a glance the status of an article and track who is currently assigned to complete a task for the article. They also need to be able to easily access a list of all versions of a submission in case they need to refer back to an older version of the submission and review content from previous iterations. Thus, quick recognition of the time and date when a submission has been uploaded or last acted upon in the system is crucial for their ability to track and manage the progress of these submissions.

BARRIERS AND RECOMMENDATIONS FOR SUBMISSION AND EXTERNAL REVIEW

The bulk of the user barriers encountered throughout the submission and external review portions of the editorial process have to do with the details of labeling, page layout, and the lack of strong cues to lead the user through the submission and review activities.

BARRIER 1: DIFFICULTY NAVIGATING EDITORIAL PROCESS PAGE LAYOUTS

In both the Submission and the External Review areas, the pages are split into different sections. The Submission page is split into Submission files and Publisher Library. The External Review page is split into Review Files, Reviewers, and Revisions. The initial file sections on both pages serves as a container for files that Editors involved in the process can open, read, assess and move into the next stage of the process. The subsequent areas are intended as “action” sections for either downloading related materials through the Publisher Library or assigning Reviewers and managing the Revision process with the Reviewers. However, when none of the above is communicated to the user. All users arriving at this page experienced severe confusion because they could not figure out which section of the page contained the functionality that they needed for a particular task. With lack of visual and textual guide posts they were unable to understand which areas of the page were mandatory for them to act on in order to progress beyond the page and which areas of the page contained only optional functionality.

Recommendation:

- Better visual separation for each section and the application of numbering or more linear ordering to help users understand which areas of the page require mandatory activity and which contain only optional activity is crucial for users to be able to progress through these pages.
- Work with a visual designer to create visual distinction between the file holding areas of a page vs. the action areas of a page.
- Addition of in-context instruction, description, and help will also aid users in comprehending what each section is meant to do.

BARRIER 2: USE OF NOTE PAD AND COLOR TO CONVEY STATUS

A small notepad icon is utilized to hold information and status on submitted and reviewed files on the Submission and External Review pages. This icon is also used in the Reviewer section of the External Review page to hold submitted reviews for an article. When an activity has been completed and a change in status occurs, the small notepad changes color. Since the size of the notepad is very small, all users tested missed the notepad all together. There is in-context
help describing for users what the color changes mean but it is available in a mouseover pop up. Since the users did not recognize the notepad as an item they should interact with they failed to pick up on the mouseover. As well, when we did direct them to the notepad, all users failed to recognize the color changes because the colors utilized were very subtle.

**Recommendation:**

- Create another entry target for additional file information. Perhaps a target that incorporates both visual and textual elements.
- To display the current stage or status of a submission, consider creating a separate status indicator that is visible on all article level pages in the editorial process. Consider placing this item in the same prominent location on each page. This indicator can change depending on the status of the article – whether it is “out for review” or “review is returned.”
- In-context help or instruction is better displayed with separate question mark icons or “What’s this?” links. This ensures that users recognize that help is available to them.

**BARRIER 3: REVIEW WINDOW WITH TWO WAYS TO VIEW REVIEW**

In the External Review page, when you click on the notepad in order to view incoming reviews, the review window contains two different options for submitted reviews. Depending on what the reviewer has submitted, editors can see either a review that has been typed into a form field or the review as an attached file. The form field review is difficult for users to recognize since the default is only to show the first three letters of the written review with a “More” link next to the abridged word. If reviewers have only submitted a form field review and not a separate attached file review then Editors will have a difficult time locating what has been submitted.

**Recommendation:**

- On the Review Window, more clearly label or visually indicate there are potentially two formats for an incoming review.
- In particular, on the text form review area, add more cues (either text or visual) that indicate there is more information contained in this area.
BARRIER 4: DIFFICULTY LOCATING VERSIONS OF SUBMISSION FILE

Once the user has progressed beyond the initial Submission page, it is difficult for them to easily return or refer to either the original submission file or subsequent versions of the submission as it progresses through the review and revision process. There is a an Editorial History icon that allows users to see a listing of all versions of a submission; however, none of the files names are linked so the user still has to navigate back through the editorial process pages in order to locate the exact copy of what they need. As well, the visibility for the Editorial History icon is poor and users could not locate it very easily.

Recommendation:

An easy to access listing of all versions of a submission file should be made available to users as they move through the editorial process. The listing should be available in the same location on each page and the listing of each file should link directly to the applicable file version.

BARRIER 5: ADVANCED SEARCH FOR REVIEWER

Under the Add Reviewer window, there is an “Advanced Search” link that allows Editors to search for reviewers currently in the system and view statistics of existing Reviewers with advanced parameters, such as number of reviews conducted, how many active reviews they are taking part in, and what their reviewing interests are. This useful information is hidden and invisible due to the labeling of this feature.

Recommendation:

- Re-label this Advanced Search area to better indicate the richness of the functionality underneath it.
- Also, consider pulling out the associated statistics in a more visible way in the top level of the Add Reviewer window. Consider adding this in for other users, such as Authors.

BARRIER 6: EMAIL LABEL CONSISTENCY

The emails that are sent out during the review process to reviewers and authors are inconsistently labeled between what is sent out to users and what is seen by the Editor in the interface. For example, in the interface, Editors see that the email form field to send to authors requesting revision is labeled “Request Revisions” however when the user receives the email it can be entitled “Unsuitable Submission.” First of all, Editors do not often realize what is being sent out to their users. Furthermore, if they are aware of the discrepancy there is no way for them to edit or change the outgoing email title since the default email titles cannot be edited.

Recommendation:

- Allow Editors and Journal Managers ability to edit default email titles.
- Apply more consistency between labeling within the editorial interface with outgoing email titles and description so that users understand how items are inter-related and connected.
- In the Editorial process, give Editors more visibility into how default email templates are being utilized in different areas of the system.
BARRIER 7: CHECKBOXES FOR JOURNAL MANAGER AND EDITOR

Throughout the editorial process there are checkboxes utilized to show that an incoming review for a submission has been considered and that official decision has been recorded in order to move the submission to the next stage of the process. However, it is not always clear to users when something needs to be checked or when the checking is optional.

As well at the end of the External Review section, both the Journal Manager and Editor roles must check a submission before it can be moved into the Editorial and Production stages. Often, the Journal Manager and Editors are not co-located thus communication between the two roles must take place outside of the system in order for both checkboxes to be checked and for the process to move on. Editors must remember to communicate to Journal Managers the submission citation information so that Journal Managers can go into the system and locate the submission and navigate through to the correct stage in the process and locate the checkbox.

Recommendation:

- For all “Consider” and “Approved” checkboxes, label and instruct users on the intent of the checkbox and that it is mandatory to check certain boxes in order to progress in the system.
- Present the checkboxes in a more linear manner on the page so that users are aware of the step progression between reviewing articles and then marking them considered. The current presentation is confusing since many of these checkboxes are laid out side by side and users do not fully understand that it is a next step.
- Investigate other constructs that may be easier for users to utilize to indicate decisions in lieu of checkboxes, such as toggle buttons that indicate change in status when users can slide the button between an active or inactive state.

EDITORIAL

The Editorial section of the overall process is an area intended for editors to coordinate the copyediting and revision phase of an article after the external review has taken place.

Skip process screens and go directly to user perspective.

Step 1: After the "Record Editorial Decision" has been clicked, the Editorial screen is generated.
Step 2: Now the Editor can choose whether or not to include all files from the accessible workflow stages (all versions and supplemental files).

Step 3: Users can upload files by dragging them onto the small white strip with the “Drag file here” label and then click on “Add file” to upload.
Step 4: If "Include all files from all accessible workflow stages" is selected, all files appear below.

Step 5: After selecting "OK" at the bottom of the screen, the files should appear under "Final Draft Files." (Unfortunately they do not appear in the associated image because of a bug in the system at the time of our test.)
Step 6: The next step would be for the Copyeditors to download the Final Draft Files and then upload them into Copyediting for the copyeditors to review. At this point the Editor could assign an Auditor (this means anyone who the Editor would like to review the documents: author, proofreader, copyeditor, board member, etc.) to the files or bypass this step and simply approve them.

Step 7: To assign an Auditor, the Editor would click "Assign Auditor" and get this lightbox.
Step 8: The Editor would then choose an Auditor from the auto-complete menu (They can search by name. Only people who have roles that allow them to audit within the journal will appear as choices) and then select the already prepared copyedited file that they wish to send along to the Auditor. In this case we choose 1 article (named Article), but more files can be added by clicking "add item" on the right hand side. Each file to be copyedited needs to be added individually to be passed off to an Auditor. Editors must be aware of how roles work within OJS to understand ahead of time who can be assigned as an Auditor at this stage. Again, selecting an Auditor is done by way of auto-complete so there is not a discrete list of all possible auditors for a journal or article at this level.

Step 9: After the Editor presses "OK" they are taken back to the editorial screen where they can see that they assigned Joey Author to Audit the files they selected. The envelope next to the Auditor's name turns from green to red when the audit is overdue (this length of time can be managed under Management > Settings > Workflow).
Step 10: The Auditor now returns the files with his/her comments. The yellow notepad signifies that the Audit has come in.

Step 11: The Editor now reads the Audit and files that accompany it by clicking on the yellow notepad. The color of the notepad now changes from yellow to blue to signify that the Audit has been read.
**Step 12:** The next step is to Consider and Thank the Auditor. First they click the "Considered" checkbox next to the Auditor's name.

**Step 13:** The next step is for the Editor to upload new copyedited files and approve them to be sent to the Production stage of the editorial process. If the file being uploaded is the same as the previous one, the upload section prompts the Editor in order to keep the submission's history. Since it was the same article, it has now been replaced with the new one. The first copyedited version was called Article, and it is now called Article (2).
Step 14: The Editor now clicks the "Approve" checkbox and is prompted with this message.

Step 15: The Editor clicks "OK" and is returned to the Editorial tab screen where their next step is to press the "Send to Production" button at the top of the page.
Step 16: The Editor is now prompted once again to confirm the documents that are continuing on to the Production stage. This is also where the Editor can choose to send the Author an email letting them know that their article is going into the Production phase. The Editor either sends or doesn’t send the email and then presses "Record Editorial Decision."
PRODUCTION

The Production stage of the system is where Journal Managers or Editors can upload articles in the final production ready formats of either PDF or HTML in readiness to be published on the public reader website.

**Step 17:** The Editor is now dropped into the Production stage. The article from before (with its original name) has now been ported over into the "Production Ready Files" section. The next step is for the Editor to create a Galley Container.

**Step 18:** The Editor clicks "Add a Layout Galley" and is prompted with this lightbox.
**Step 19:** The Editor creates a Galley Label, select a language, and then chooses what kind of galley they will be creating. If the Galley is a PDF Article Galley, then PDF files must be added to this galley, if it is an HTML Article Galley, then HTML files must be added, and if it is a Downloadable File Article Galley, then WORD or other similar file types must be uploaded. In this case, we chose to have it be a PDF Article Galley and pressed Save.

[Note: OJS does not convert the working documents into PDF or HTML versions. The system will merely express the file type that the user uploads in the correct way with the correct file type selected. The Galley is simply a container holding the final version of the article.]

**Step 20:** Now the Galley container has been created and we can now upload the final Galley PDFs of the article.
Step 21: The Editor uploads the PDF of the article under "Galley Files." Here now, the final PDF can be proof-read and reviewed one final time. This is done by adding Auditors to the Galley Files section as they were added earlier in the Editorial process.

Step 22: Once the Auditors have approved the PDFs (or made changes and the Editor has uploaded new PDFs), the Editor would click "Considered" if there were comments and files uploaded by Auditors (which there are not in this case) and then check the "Approved" box.
Step 23: Finally the Editor would click the "Available" check box above the "Galley Files" section to make the final format available to the public/readers. This makes the document ready to be published - although it has not yet actually been published. This step simply allows for the publication activities to begin.

Step 24: Now the article is ready to be published and the Editor or Journal Manager can begin the publication process.

USER PERSPECTIVE: EDITORS AND JOURNAL MANAGERS FOR EDITORIAL AND PRODUCTION

Editors and Journal Managers are the primary users of the Editorial and Production stages of a submission.

When Editors or Journal Managers are taking an article from the External Review process through to Publication, they expect a simple and easy workflow of pushing the article into several stages of proof-reading and editing in order to progress to the publication stage. Editors have to manage interactions with Section Editors, Copyeditors, Proofreaders, Author(s), and various other Auditors sometimes including Advisory Board Members and Translators on different types of editing tasks. The Editor asks these players to review and give input on articles from different aspects with different
tasks.

The Editor expects to be able to track these inputs and reviews and to manage all versions of the article and other associated documents so that he or she can merge all of the feedback in an orderly way to produce the best version of the article that they are trying to place into their journal. Being able to track the time and placement of these files and associated documents is also very important for this to be successful. The ability to move and upload all file versions easily from one stage to the next is a crucial usability concern for Editors and Journal Managers.

Sometimes editing an article for publication is not a one-person job. Depending on how a journal functions, the Editor might work with the Administrator or Journal Manager of the journal on the editorial process. In this case, the Editor may hand off the article that they are working on to the Administrator or Journal Manager at any point in the editorial process to finish up and publish. This could be early on in the editorial process right after the reviews are completed or further on in the editorial process after copyediting has been completed. Alternatively, some Journal Managers have a hands-off approach and want to have minimal interaction with the editorial and publication process. Their concern is mainly to educate their Editors to complete all editorial and publication tasks independently. Either way, the Editor and Administrator or Journal Manager require a seamless way to pass documents back and forth when communicating for optimal productivity for the best possible result. Sometimes the Administrator or Journal Manager and Editor will leave a publishing system to complete these editorial activities simply for ease of use and faster communication and then return to the system for the publishing phase.

### BARRIERS AND RECOMMENDATIONS FOR EDITORIAL AND PRODUCTION

In general, both Editorial and Production pages are very difficult to use. Editors and Journal Managers alike struggled to get through all four sections (Final Draft Files, Copyediting, Production Ready Files, and Galleys) of those pages in order to push an article into the publication phase. This struggle occurs because of the confusion engendered when some files move automatically from section to section and other files need to be manually uploaded into a new section. It is difficult for users to know when and how to move files from one section to another while keeping track of all versions of the article.

#### BARRIER 1: COLORED PROGRESS BAR

The colored progress bar at the top of the editorial flow is difficult for users to understand because there are four colors at play. Usually, when a colored bar is used to indicate progression in a series of sections, there are two colors utilized—one for the inactive state and one for the active state. On this particular color bar, there are four colors in use—gray for inactive state, light blue for active state, deep blue for active state of Editorial section, and green for both active and inactive state for Publication section.

The progress bar does change color as a user moves through the editorial process; however, it is unclear how the colors relate to the stages of the article since they are inconsistently used. Other than the colored bar, there is no other way for users to see at a glance where they are in the editorial process for a particular article. All users tested were uncertain about the meaning behind the color changes for the progress bar. Since the editorial activities at the article level are so complex it is crucial that the status of the article (what steps have been taken, where it is in the editorial process) is clearly visible and understood at all times.

**Recommendation**

- A new progress bar with clear typography and only two color states (one for active state and one for inactive state) needs to be designed.
- As recommended previously, the more granular status of the article should also be displayed on the article
level pages. This status should coincide with the state of the progress bar.

**BARRIER 2: FILE MOVEMENT THROUGH THE EDITORIAL PROCESS**

How files do or do not move throughout OJS is not apparent to users. Sometimes files can be moved through the editorial process without a manual upload. It is unclear to users where this will or will not occur, especially within the Editorial and Production phases. More often than not a user downloads a file, completes their tasks with the file and then re-uploads the file to a section where the cycle continues. Editors and Journal Managers are unclear as to where and how these steps take place and where they are able to simply move files forward in the system without downloading and re-uploading (especially if no further tasks need to be taken at a certain step).

**Recommendation:**

The ability to keep all files together and move them from one section to another within OJS without downloading and re-uploading is a crucial activity to the editorial process. Make it clear in labeling if a file needs to be uploaded or if it can be moved from a previous stage.

**BARRIER 3: USE OF TERMINOLOGY AND PLACEMENT OF LINKS AND BUTTONS**

On the Editorial page, An Editor or Section Editor may be confused by certain terms such as “Send to Production” because it is placed at the top of the page, and not the bottom of the page where one would think a “last step” would be placed after tasks are completed. These questions came up during testing.

- When should the editor be sending files to production?
- Are files going to move to that section when they hit the “Send to Production” button?
- Is that a step they do after they complete the other steps on the page or before since the button is above the sections on the page?

Editors and Journal Managers were confused as to how the four sections on the Editorial and Production pages function (Final Draft Files, Copyediting, Production Ready Files, and Galleys). They did not understand that the general layout for these final two pages of the editorial flow act similarly to the Submission and the External Review pages where the top section is actually a holder for files and the bottom section is where actions are taken on those files. On the Editorial page, files are uploaded to Final Draft Files and then re-uploaded to Copyediting as revision transactions occur on these files. The same goes for the Production page, where files are uploaded to the Production Ready Files and then re-uploaded to the Galley section where more tasks are performed on the files. Currently, the flow from the
Editorial page to the Production page does not look like a step-by-step process which leaves users uncertain as to the location for certain steps and the ordering for these steps.

**Recommendation:**

- The entire editorial and production flow should be re-designed in a linear and visual step-by-step numbered process that is outlined so that users can clearly see which steps lie ahead of them and how the steps will be completed.
- The names of the file holding bins (Final Draft Files and Production Ready Files) need to be clearly labeled so that users understand that these are container areas and that the sections below are the functional areas of the page.
- Consider creating one holding area across all editorial sections that moves with the user as they go through the editorial process. This would consolidate the file container metaphor and make the functional areas of these sections stand out in a more prominent way.
BARRIER 4: COPYEDITING SECTION

The Copyediting section is difficult for Editors to fully utilize. In this area of the site, Editors must assign Auditors to fulfill the copyeditor duties. Editors could also potentially add Auditors to review the article at the Copyediting stage but not necessarily for the official copyediting task. They could have the Auditors review content for other purposes. For example, some journals may have Board members that would like to review all articles prior to publication. However, they are not necessarily copyediting so much as reviewing content for general approval in addition to the external review process. Also instead of “adding an auditor” the way that Editors assign Reviewers on the External Review page, users must utilize the Participant menu or tool available in the upper left corner of the page. The Participant list tool is difficult to use due to the placement of the tool’s icon and it is also not clear that users need to be added to the journal FIRST under Users & Roles before they can be added as a copyeditor. (This process is covered more completely in the following Barrier 7: Auditor Assignment section.) Following through with decision making around the copyedited files is also difficult to navigate easily. The check boxes that are used as a decision confirmation point also trigger emailed communication with Authors. In these situations, the Editors mentioned that they would prefer to leave OJS and communicate by email because it was simpler than understanding how to utilize these pop-up boxes with dual confirmation and communication functionality embedded.

Recommendation:

- The copyediting process needs to be simplified and structured more linearly. The document transfer/upload and checkbox processes are condensed into a horizontal display to save vertical real estate which only confuses users. Most users need a numbered, vertical and linear display in order to act on the proper steps for the copyediting processes.
- The use of checkboxes to keep track of files and steps being taken, as well as trigger communication with users is a complex interaction. It would be clearer to users if the checkboxes served as confirmation of tasks or decisions only. The two processes need to be separated out from each other with clear call-outs explaining the significance of each step.
- We did not cover this in testing however many users have let us know that they need to be able to upload multiple rounds of revisions during the copyediting stage so this functionality needs to be present in the system.

COPYEDITING

Assign the copyedited files to authors (and others as needed) to review changes and answer queries, with their responses and uploaded files appearing in the notebook tool. These are marked Considered by the copyeditor, who then prepares a final copyedited file copy to upload to COMMISSION, which the editor checks Approved, before sending to the Production stage.

<table>
<thead>
<tr>
<th>File</th>
<th>Considered</th>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Files</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Editors confused over how to use this section in conjunction with the Final Draft Files section.

Editors do not comprehend that the Participants list is a necessary tool in adding a new copyeditor.

Adding a copyeditor and sending them files is confusing.

Checkboxes that serve as triggers for confirmation of consideration, approval and communication can be difficult for users to understand.
**BARRIER 5: GALLEY SECTION**

The Galley section of the Production page is one of the most difficult pieces of the editorial flow from a usability perspective. Firstly, some Editors were confused by the term “galley” in general; citing its antiquated print origins. These days many journals are published online only and thus the label Production Ready is a more neutral label that they recognize. Next, Editors could not discern the difference between the presence of both Production Ready Files and Galleys.

Editors did not understand why they needed to create a galley container first and then load the files into this container area. They did not understand the distinction of the “galley” container vs. the “galley” files and felt like they were creating a galley within a galley.

Editors complained that there was not enough metadata for the galley files. They did not understand that when they were uploading files that they were attaching file-level metadata first and that the article-level metadata lived in a different place. They did not connect that the top Metadata Submission area at the top of the page contained the article-level metadata. They thought that when they created the galley and were prompted for metadata, that was the only information to be associated with the files.

Editors were confused as to why Galley files were not converted into the format that they selected when they created the galley. They anticipated that the Galley area might be utilized to convert word files into PDF or HTML files. It was not clear to them that they needed to conduct these activities off-system and then upload them back into the system.

**Recommendation:**

- Galley container and galley file creation needs to be more intuitive and appear in a visually linear process with a step by step outline so that Editors can understand clearly that they are creating a container for the galley files and that the galley files will be published together when they are ready to do so.
- Also, users must have clear instruction over what the galley area can and cannot do. For example, the galley area cannot convert files into PDF or HTML.
- There needs to be clear instructions throughout OJS for both file-level and article-level metadata and where each will appear at every stage. This understanding is especially important with galley creation so that Editors or Journal Managers understand that there is complete descriptive information for their articles. They want to be aware of which metadata is associated with which files at all times.
Editors did not understand the term “Galley” and/or stated that it was an archaic term.

Editors thought that their previous files would be ported over in this section.

Editors do not understand how Galleys and Galley Files relate to each other.

Editors are confused over whether they need to make the Galley available before they approve the Galley Files or if it even matters. Editors are also uncertain of the intent, purpose and ordering of the steps in this portion of the process.

Editors did not understand the differences between these 3 files types – especially Downloadable File Article. No information about the types of files that can be created and how users interact with them.

Editors confused by what a Layout Galley is and where this would show up in relation to publication.

Editors wanted to add more information to the Galley at this point. They were not aware/did not remember that there was another metadata section for publication.

Editors thought that their documents would convert their documents into this file type.

Editors did not understand how to create a Galley and what these terms meant for the submission.
BARRIER 6: AUDITOR ASSIGNMENT

The role of Auditor was introduced into the OJS 3.0 version as an umbrella role that Editors can use to send to any affiliated journal member for additional review. As we started to explain in Barrier 4: Copyediting Section, the intention was for Editors to use this role in case they wanted to send the submission to either an already existing secondary role in OJS, such as Copyeditor, Translator or even for someone who did not have an official role within OJS, such as a journal’s board member. Unfortunately, none of this context is apparent to the user. The presence of the “Add Auditor” functionality on the Editorial and Production pages (in the Copyediting and Galleys sections) threw many Editors off as they were progressing through the final stages of the editorial process. They did not know what the term “Auditor” was referencing and did not realize that it was an umbrella role that you could attach to other existing OJS users. They also did not understand if the “Add Auditor” feature was a mandatory part of the editorial process or if it was an optional choice.

When it came to assigning Auditors, Editors did not comprehend which users and roles could be assigned as an auditor. They did not understand that they would be adding an auditor at the article-level, not the journal level, and they did not understand that the Participants menu had to be used in this process. Some roles allowed for an Auditor function (guest editor, reviewer, etc.) and some did not (assistant editor, designer, etc.). The Participants menu is similar to the Users & Roles section (Management > Settings) except that it assigns certain users to specific articles; however, it requires that users must first be added to the Users & Roles section before they can appear in the menu. This nuance is opaque to the user since there is no instruction available on the interface. However, even with instruction and detailed user documentation we extrapolate that this complex process will be difficult for users to fully comprehend and recall when they enter into the system.

After we led the Editors through the Auditor role assignment process, users still did not understand how to share files with Auditors in order to get their feedback. This continued confusion has to do with the horizontal layout of the section. This is a similar pain point expressed in the Copyediting section where multiple interaction points are laid side by side in a horizontal layout. When unlabeled a side by side layout does not give users a true understanding if certain interactions need to occur before others.

Recommendation:

- Create clear instructions for what an Auditor is and how it should or could be used to assist with the editorial process. Indicate if it is optional or mandatory.
- Re-think the flow of assigning certain journal users to specific articles. Consider a more direct interaction for assigning additional users to article level activity. The Participant list is not intuitive and it is not clear that users need to add an auditing user to the journal through Users & Roles and then the Participant list before selecting “Add Auditor” by the files they want audited. The ability to add users as Auditors should be fully functional within the “Add Auditor” screen without the use of the Participants tool, which only serves as an unnecessary middle step.
In Production, the editor selects publication formats (e.g., PDF, HTML, etc.) in production, for which the layout editor prepares publication-quality files based on the production-ready files. The publication-quality files are uploaded for each format in a catalog file where they are protected. The article is approved (i.e., marked ready for publication) for each format in a catalog file and is published once the associated issue is published via a production workflow.

**PRODUCTION READY FILES**

The layout editor creates these files for each format and then uploads to the appropriate systems for proofreading.

**LABELS**

The layout editor uploades the production-ready files that have been prepared for publication here. Use Assign Auditor to designate authors and others to correspond with the files, with connected file uploaded for approval prior to publication.

**FINAL ARTICLE**

**GALLEY FILES**

The layout editor uploads the production-ready files that have been prepared for publication here. Use Assign Auditor to designate authors and others to correspond with the files, with connected file uploaded for approval prior to publication.
Editors do not comprehend that the Participants list is a necessary tool in adding an Auditor.
As mentioned previously, Editors and Journal Managers work with many different files and have trouble differentiating when they are entering in file-level metadata vs. article-level metadata. In the upload process during the editorial process, users are usually given the file-level metadata form when uploading revisions. They will sometimes attempt to enter in the full article title in this form and wonder why they have to enter in article level metadata every time they work with a new version.

**Recommendation:**

The title of the article submission needs to be visible at all stages of the editorial process – including when users are working within a lightbox. The presence of this title along with an explanation of the difference between article vs file metadata will reinforce to users the type of metadata form that they are encountering.
This section covers tasks that a Journal Manager or Editor go through when they are publishing an article. This includes creating issues within a journal, publishing articles to issues, and pushing the issue and articles to official publication on the public website.

Skip process screens and go directly to user perspective.

CREATE ISSUE

Before the first article of a journal is published, the Editor or Journal Manager must create an issue inside the journal to hold the articles. Pretending that an issue has not been created, the steps below are what an Editor or Journal Manager would do in order to create an issue and then publish this article into that issue for public consumption.

**Step 1:** To create an issue, the Editor or Journal Manager goes to Manager > Issues.

**Step 2:** On the Issues page Editors or Journal Managers can create an issue by clicking on the "Create Issue" icon on the right side of the page.
**Step 3:** The Create Issue lightbox pops up.

**Step 4:** Here they can input fields (Volume, Number, Year, Title) that are mandatory. To create the issue, click Save.
Step 5: The lightbox closes and the issue now appears under the tab Future Issues because the issue itself has not yet been published.

Step 6: Under the pencil icon, the Editor or Journal Manager can now publish the issue so that the public can view it. Since there is nothing in the issue yet, the Editor or Journal Manager is going to hold off publishing the issue until there is at least one article in it (otherwise users will see an issue, but it will be empty).
Step 7: Now that the issue has been created, the Editor or Journal Manager must go back to the Production stage (via the Dashboard) for the article they would like to publish and select the "Submission Metadata" link above the editorial process tabs.

Step 8: The Submission and Publication Metadata lightbox pops up.
**Step 9:** On the Submission tab, the Editor or Journal Manager can review the article-level metadata as well as add or edit to the fields. Clicking the Save button will commit the changes to the form.
Step 10: Once Save is clicked, the lightbox does not shift the user over to the Publication tab (as in other tabbed forms in OJS), but simply notifies the user that the metadata has been saved. In order to move to the next stage, the user must click on the Publication tab.

Step 11: Once on the Publication tab, the user must now select an issue to publish the article into.
**Step 12:** The user clicks the drop-down menu and picks the issue to publish into.

**Step 13:** Once the issue is selected, the user clicks the Save button.

**Step 14:** After Save is clicked, the user is notified of this save and sees another box of information pop up called Published. This is where the date of the article's publication will go.
Step 15: When the Editor or Journal Manager clicks the blank space under Published, a calendar pops up for them to choose a date. If today's date is chosen, the article will be published immediately when the final publication button is pressed otherwise the article will be pushed to publication at a later date selected.

Step 16: In this example, today's date is selected for immediate publication.
**Step 17:** After the Editor or Journal Manager clicks Save once again, another notification appears letting them know that the information has been saved. Normally this would mean that the article is published. However, since we did not yet publish the issue, that step needs to be taken in order for this article to be visible to the public.

To exit this lightbox the user needs to close out of the box. This is important to note because this lightbox behaves differently from all other lightboxes in OJS.

**Step 18:** In order to push the article to final publication, the Editor or Journal Manager must go to Management > Issues and publish the issue.
Step 19: Again, the issue that the user created is visible here under Future Issues (remember we did not yet publish this issue).

Step 20: If the Issue is clicked on, a lightbox pops up and the user can see that the article they were working on has been pushed into the issue. At this point, they are also viewing the Table of Contents and can move the articles up and down to the arrangement of their liking using the Order button.

Step 21: If they click the pencil icon next to the article, they see links to remove the article from the issue as well as a link to get back to the editorial process flow.
Step 22: If the lightbox is closed and the user clicks on the pencil icon next to the issue, they can edit the issue, see a preview of the issue, publish the issue, or delete the issue.

Step 23: This is what a preview of the issue looks like. Here the user can also click on the articles and preview them.
Step 24: Since earlier in the process we had chosen a PDF Galley version, this is what the preview of the issue would look like (we used an empty PDF document in this case). And below the displayed PDF is a link to download the PDF.

Step 25: Now, in order to finally publish the issue, the user goes back to the pencil icon’s menu options and clicks the Publish Issue link.

Step 26: OJS confirms that the issue is about to be published. Once OK is clicked...
Step 27: ...the issue is published and moved to the Back Issue tab because it is no longer a future issue.

Step 28: The published issues appear under the Back Issues tab...

Step 29: ...with the options of editing, viewing, unpublishing, and deleting the issue.
USER PERSPECTIVE: JOURNAL MANAGER AND EDITOR

As we alluded to in prior user perspective sections, issue and article publications occur in two common use cases. In the first scenario, the Editor will manage the progress of the article through the bulk of the editorial process and then hand the article(s) over to the Journal Manager to create production-ready files and to manage the article(s) through the publication process. The other scenario involves the Editor managing the article’s progress all the way from the editorial stages through to final publication. In either case, all users expect a simple process for publication that lead organically and clearly into each next step.

Once, the Journal Manager or Editor is in possession of publication-ready files, they expect to find a “publish now” or “transfer to issue” button that might take them through a few last minute checks regarding the article’s metadata and then have the article published and available to the public.

How Editors and Journal Managers manage the timing and structure of their online journals can also occur in a couple of different use cases. Some journals follow a more traditional publication model and publish multiple issues a year at a specified time each year and have a specific date that articles must be submitted in order to make that publication deadline. Other journals only have one issue within their journal and publish articles on a rolling basis. In the latter case, only one issue is created at the same time of journal creation, and then the task of issue creation does not occur again. This is important to note because depending on the journal, issue creation may or may not be a regular occurrence in their editorial flow. If it is, then it is crucial that Editors and Journal Managers have easy access to issue management tools.

BARRIERS AND RECOMMENDATIONS

The publication process requires many diverse tasks to be completed in order to finalize the publication of an article. The full publication process consists of a few different stages, preparing and configuring a journal issue and then passing the article into the issue so that the issue along with the article(s) can be published. Many of these tasks are not co-located in the interface. Users have great difficulty understanding, where the basic tasks of preparing an issue, sending an article to the issue, and then publishing both the issue and the article to the public website, occurs.

BARRIER 1: NO CONNECTION BETWEEN END OF EDITORIAL PROCESS AND BEGINNING OF PUBLICATION PROCESS

The largest issue that complicates the publication process is that there is no clear and apparent "publish" or “send to issue” button for the Editors and Journal Managers to use after they have completed the Production phase of the editorial process. There is no apparent next step that leads directly into the publication phase. Without an apparent linear continuation of the publication process, users are left with a dead end.

In general, even though the current editorial process page layouts can be difficult to follow, the editorial process in OJS does associate similar steps in one area or one page- even when more granular and intuitive labeling or ordering is not present. However, with the article and issue publication process that general trend vanishes and the publication steps for an article and issue appear in different areas of the interface.

Also, once these tasks are performed, there is no indication that an article has been published from the article-level pages. Since articles can always be re-accessed at these article-level editorial pages, this lack of publication status information could cause confusion and redundant activities performed on an already published article.
**Recommendation:**

The publication process needs to continue to be linear and ordered numerically. Call-outs ensuring that an issue is created before a user tries to publish an article should be present at the article-level. Users should be able to traverse from article-level to issue-level functionality with ease. The addition of a “Publication” section after the Production section would help users easily locate all article-level publication activity that need to take place before an article can be sent to an issue for publication. Users have a difficult time noticing the Submission Metadata, Editorial History, and Participants icons above the editorial progress bar. Thus, it is impossible for them to locate the Publication tab within the Submission Metadata module. The solution of pulling out the Publication tab as a final stage in the Editorial process will support users in understanding how to move the article easily from Production stage to Publication. As well if the icons in that top area have continued importance in the editorial process, making them more prominent or moving them into the user’s field of vision will assist users in locating them more easily.

As stated in previous editorial stage sections, there is a great need for article-level status indicators within the editorial process pages. Users want to know not only if an article has been published or not published. They also want to know if a publication date has been set in the future. Find a prominent stable location for article status on all editorial process pages.
Editor is not aware that in order to publish the issue, they need to click the pencil and then click “Publish Issue.”

There is no indication that the article has been pushed to an issue, published today, or set to publish for the future.
While editors were in submission flow, they forgot about the tools located above.
The interaction design of the Publication tab was the cause of some confusion for users. The area where users can designate publication date only shows up once a publication issue has been selected. Once the user selects the publication issue from the pull down menu, they did not always recognize that a publication date field had appeared. As well if the users were able to notice the publication date field they assumed that they would fill in a date within the text field. They were surprised when a calendar popped up once they clicked their cursor into the date form field. One additional point of concern for users came up when users asked if we knew what time the publication would occur if they selected a date. They asked...

- If we select today's date, will the article publish immediately?
- If we select a future date, when will the article publish on that date?

Recommendation:

- All the steps in the article publication process should be laid out in a linear path similar to the proposed layout for the pages within the editorial process. All publishing steps, such as publication date selection, should be clearly laid out with complete transparency at all times so users can anticipate their next steps.
- Add a time field next to the date selection mechanism so that users can set a time for publication. If publication times cannot be set, then at least inform the users with explanatory text the time when a publication would occur on a current date as well as a future date.
Editor does not realize that this area has popped up after they click save because they are assuming that the lightbox will close and they are finished with this task.

Editor does not realize that this box will pop up until they click the empty line. Is there an official publication time for future dates? If they select today will it be instantly published?
BARRIER 3: USE OF PENCIL ICON IN THE ISSUE AREA

The Table of Contents, Preview, and Publish functions of an issue were difficult for some users to locate.

As mentioned in previous sections, users did not know that they had to click on the Pencil icon next to an object in order to perform crucial functional tasks. To create or order a Table of Contents, users had to click once on the issue-level pencil icon and then a second time with the Edit link that had another pencil icon next to it. This buried functionality was difficult for users to locate.

Recommendation:

Use more universal expand and collapse icons to indicate that more functionality is available or even links indicating “More here.”

Another alternative to exposing hidden functionality is to keep them present under each issue. This may have been a display option that was cumbersome in the OJS 2.0 design; however, for the crucial “Publish Issue“ function, pulling it out and placing it next to each issue will contribute greatly to the user’s ability to complete this final step.

Editor is not aware that the Table of Contents & Preview lies under the 1st pencil icon, then the 2nd pencil icon.
BARRIER 5: ISSUE CREATION

Issue creation can be a time-consuming and cumbersome process if an issue has not been setup prior to article publication. If Journal Managers and Editors do not have an issue already created for an article to publish into, they cannot finish the article publication process. An article cannot be published without an issue to publish into. Within the editorial process, there is never a notification or call-out to the user to ensure that an issue has been created for the article. For journals that publish on a rolling basis and only have one issue for their entire journal, this is not a problem, but for journals with hundreds of articles and many issues, forgetting this crucial step may slow-down the publication process immensely—especially when it involves many different roles. The creation of an issue is a complicated task that requires leaving the editorial process area.

Recommendation:

Issue creation should be something that has a reminder link at the article-level of the editorial process. For example, a "Did you remember to create an issue?" link could be helpful as a reminder for users in this situation. If an issue does not need to be created, the user can very easily ignore the link. However, if an issue does need to be created, the link could take the user directly to the Issue Creation area of the system.

Editors thought they would setup an issue under the Editorial or Production tab.

Unclear that issues need to be created before an article is published.

There is no workflow for issue creation leading into publication. Editors get lost after creating a galley. What is their next step? Where do they go?
New Feature:

In the Issue Creation area, Editors and Journal Managers want to be able to add page numbers on their articles where the Table of Contents is managed.

Bug:

Not all forms of numbers are accepted by OJS when publishing an issue. For example, roman numerals are simply saved as zeros in the issue setup widget. However, this complication does not trigger an error message.

Editor typed in roman numeral 3 (III) and when the issue was published, it published as zero (0).
SUBMISSION PROCESS FOR ARTICLE

The submission process that was evaluated during this project involves the Author’s entry point into the OJS system, the uploading of files, metadata entry, the follow-up email communication, and the review process (from the Author’s perspective).

Skip process screens and go directly to user perspective.

NEW AUTHOR REGISTRATION PROCESS

Step 1: The Author begins on the OJS homepage and clicks on “Register” in the top right corner.

Step 2: The first screen contains a list of all journals associated with this OJS instance. The Author selects a journal to register with.
**Step 3 – New OJS User:** The Author fills out their profile information (only Username, Password, Full Name, and Country are required).
Step 4 – Current OJS User, New to Journal: If the Author has already registered with OJS but not with the specific journal, they would click on the “click here” link at the top of the full registration page (see previous step) to be taken to this shorter signup page where they would register only for the journal they want to submit to.

Step 5: After clicking “Register,” the user is taken into OJS and their dashboard which now contains a button to submit an article to the journal they have just registered with. [Note: this is the appearance of the Author’s dashboard if they are registered with only one journal.]

SUBMISSION PROCESS

This section covers tasks that an Author goes through when conducting their submission and revisions of an article and the decision points they come across while going through that process.
Step 1: Depending on how the public interface is designed, registered users are usually looking for a “submit an article” button on the public reader’s journal page. They anticipate that this is the best way for them to enter into the Submission process for an article. In this version of OJS, they must login to the interface through the “Login” link in the top right corner of the global navigation area. Once they login, they are sent to the Tasks tab on their Dashboard. The Author then selects from the drop-down menu in the Dashboard under the “Start a New Submission In” label the journal they wish to submit their article to (if they have registered to several journals before there will be many listed, if not, there will be one button instead of a drop-down menu which is the title of the journal that they have registered with).
Step 2: The Author is then placed on the Submit Article section which has four main steps: split into four tabs (Start, Upload Submission, Enter Metadata, and Confirmation).

Step 3: In the Start tab, the Author selects a section in which they want their article published, checks off the submission checklist to say that they’ve complied with it, and then press “Save and continue.”
Step 4: The Upload Submission File lightbox then opens.

Step 5: The Author selects the type of file they are uploading.
Step 6: The Author then drops the file into the narrow white space labeled "drag files here" (see Step 4) or presses the "Add Files" button to open a pop-up window to upload their document.

Step 7: The Author then presses "Start Upload" if they dropped the file over the "drag files here" area and presses continue.

Step 8: The Author then types in the file-level metadata for the file that they uploaded (not the article-level metadata) and presses Continue.
**Step 9:** The Author is then taken to the Finishing Up tab where they can upload supplemental files to their submission if they need to and presses Complete.

![Upload Submission File](image)

**Step 10:** The Author is taken back to the Submit an Article section and placed on the Upload Submission tab where they edit their submission if they need to. They press Save and continue if they want to proceed.

![Submit an Article](image)
Step 11: The Author is taken to the Enter Metadata tab where they can enter the article-level metadata for their submission.
**Step 12:** After they have entered in their metadata (only Article Title and Article Abstract are required), they press Finish Submission.

**Step 13:** The Author is then taken to the Confirmation tab where they are informed of next steps and offered the option of reviewing the submission, creating a new submission, or returning to the Dashboard.
**Step 14:** The Author receives an email from the OJS System thanking them for their article submission.

![Submission Acknowledgement Image]

**Step 15:** If rejection occurs, the Author will receive an email from the OJS System notifying the user that their submission has been declined.

![Unsuitable Submission Image]
Step 1: Author receives email notifying them, that based on external reviews, the Editor requests that they modify their article in order for it to be suitable for submission. This email includes review text and notes either in the body of the email or as an attachment.

Step 2: Author logs into OJS System and, in multi-journal instances, locates the journal they are submitting to in the top drop-down menu.
Step 3: Author then selects Dashboard to find the article that has been returned from External Review.

Step 4: Author selects the task that refers to the article that requires revision work.
Step 5: Once the Author clicks on the applicable task, they are taken to the Author's view of the article-level editorial process. The Author can read the reviews of their article again.

Author, Pax Afrikaner (B)

In each initiated workflow stage listed below you will find information on the stage's status, as well as any associated submission files and correspondence associated with that stage. You may be asked to upload a revised file to a particular stage, or audit a file that has been previously uploaded, both actions which can be completed within the stage section specified.

REVISIONS SUBMITTED TO EXTERNAL REVIEW. Upload File

LATEST EDITOR DECISION. Revision requested.

SUBMISSION

Name

Pax Afrikaner (B)

Element

Submission

EXTERNAL REVIEW

ROUND 1

MESSAGE FROM THE EDITOR

Subject: [ufahamu] Unsuitable Submission
2013-12-02 04:04 PM

The following message is being delivered on behalf of Ufahamu: A Journal of African Studies.

Joey Author:

We have reached a decision regarding your submission to [JournalTitle], "Pax Afrikaner (B)".

Our decision is to:

Joss Editor
joss.ojk3@gmail.com

--------------------------------------------
Val Reviewer
This is my review of this article. I think there are some things that need to be changed. Here is my list of items I am concerned about:
1. This this that and this.
2. This this this that and this.
3. This this that and this.
Step 6: Author uploads their revised article under “Revisions.”
Step 7: Upon completion of their revision work, the Author receives another thank you email from the OJS System.
**Step 1:** Author can check on their article status as the editorial process is taking place by visiting their article-level view into the editorial process.
In each initiated workflow stage listed below you will find information on the stage's status, as well as any associated submission files and correspondence associated with that stage. You may be asked to upload a revised file to a particular stage, or such a file that has been previously uploaded, both actions which can be completed within the stage section specified.

**YOU HAVE AN AUDIT PENDING.**

LATEST EDITOR DECISION: Production process started.
- SUBMISSION
- EXTERNAL REVIEW
- ROUND 1
- COPYEDITING
- PRODUCTION
- SUBMISSION DOCUMENTS
Step 2: Author gets a notification from the Editor that their article has been sent to production.

Step 3: Author is asked by the Editor to participate in various auditing activities before the article is published.
Step 4: Author logs into OJS to review the Galley Files and submit any additional comments. [Note: the Production area will usually contain files for review; however, during this evaluation a bug occurred that did not allow proper display of the files.]

Step 5: The Author reads their article in its published form on OJS.
[Note: The box here would usually contain a completed article in PDF format.]

**USER PERSPECTIVE: AUTHOR**

Unless it is early in their professional or academic careers, most Authors have had experience engaging in the editorial process whether via a publishing platform or through an offline process handled via email or fax with an Editor. They are familiar with participating in submission activities, rounds of external review, copyediting revisions, signing of author agreements, and final publication. When working with a new publication system or a new version of an existing system, they are anticipating clear, easy-to-find submission guidelines on the journal’s public website and a highly visible submission entry point for users. Once their article is submitted to the journal, the Author expects the Editor to take over management of the article’s movement through the editorial process. Once an article has been submitted,
the Author wants to be informed about the status of their article—whether it has been sent out for review, needs revision, or ultimately if the article has been accepted or declined for publication. Email notification, whether from a publishing system or directly from the Editor, is the most familiar channel of communication for the Author. Even if they have login access to the system, most Authors prefer and rely on email notification since it serves as a reminder for them to go back into the system to complete a task. Thus, emails with accurate titles, easy to scan body text, and appropriate links that will take them directly to the task they need to complete are an important part of their experience with the publication process. They also liked to know ahead of time the nature or extent of work they would be asked to engage in when they logged back into the system.

Once logged into the system, Authors want to be guided through the submission and review process. They expect clear ordered instruction for each step that they will have to take in the system. They do not always understand the technical or professional terminology that publishers use to describe publishing activities or components of a publishing system. Since they are usually only working with one or a few articles at a time in one system, they want to get in and out with ease. If they are expected to upload new files or communicate with the Editor during the review or revision process they want to have clear indications for how to conduct these activities. Many times, if users receive email they may hit the reply button and correspond directly to the system-generated email not fully realizing that their email may not reach the Editor if the return address on the system-generated email does not return directly to the Editor.

Once one submission has been published, an Author may want to come back into the system after publication has occurred to review metadata. They may also be interested in usage statistics for how many downloads or views they received for their article. If an Author has published more than one article with a journal or a number of articles across different journals within one instance of OJS, they will want to be able to access all of their previously published articles in an easy overview listing.

**BARRIERS AND RECOMMENDATIONS**

Many of the barriers that Authors face in the Submission process involves the areas that they feel are the most crucial aspects in their interactions with the Editor during the editorial and publishing process. Most of the usability pain points involved system emails, entry into submission process, editorial process interactions, and general communication.

**BARRIER 1: EMAIL NOTIFICATIONS**

System-generated emails coming from the Editor, at various stages of the editorial process, are difficult for Authors to quickly scan and understand what their next steps should be. For example, the default email requesting a revision has a subject line that reads “Unsuitable Submission.” All Authors reading the title thought that they had received a rejection email from the journal. For some Authors who quickly scan their email titles in order to decide which to open first, they may skip this email or delay reading it. Authors were surprised when they opened the email and saw that it was just asking them to make revisions to the article based on external reviews.

The default emails do not include direct links to article-level content. The only default links available to a user are more general ones that land on the journal’s public homepage or the dashboard within OJS. Authors need a direct link to their article page to help mitigate any difficult they might face having to login and navigate down to the article-level area.

In the acceptance email, Authors were confused by the terminology "In Production." The email states that the article was going into production which confused Authors who were not cognizant of the details of the OJS publication process and was uncertain what it meant for their article. They did not know if it meant that their article was going to
be published or if it had already been published. They were also uncertain if they had any involvement in this “Production” stage.

Recommendation:

- Re-write default email titles so that they better correspond to the article’s status descriptions found in other areas of the system – such as on the Dashboard. Re-write messaging within the body of the default emails so that it does not contain OJS-centric language and terminology that might not have any meaning to outside users.
- The email body text can be edited by Editors and Journal Managers so if need be they could edit their own email language; however, the default email titles cannot be edited. As mentioned in previous sections of this report, enable email title editing for all email templates.
- Text-based emails can be difficult to design and layout effectively; however, ordering, spacing, and clear demarcation can be utilized to provide users with an easier to scan email message. This easier to scan email message will ensure that users can see at a glance the areas where they need to review information and the areas that depict their action items or assigned task.
- All emails should contain a direct link to the article-level page area.
“Unsuitable Submission” is a very harsh subject line for the “changes need to be made” email to the Author.

Email scan-ability can be difficult for users.

Not all emails contain the link to the specific article.

“In Production” with no explanation is confusing.
BARRIER 2: ENTRY INTO SUBMISSION PROCESS

Entering into the submission process was a frustrating experience for the users we tested. Part of the pain point for the entry occurred because we had not set up the public interface in the way that journals utilizing OJS’ public reader interface were sometimes set up. Users were expecting to find a “Submit article” button or link on the journal’s public homepage. However, once they were logged into the system and had arrived at their dashboard users still had trouble locating the start submission entry point. They were expecting a prominently displayed “Start submission” button or entry link. The majority of the users tested missed the Submission area under the Tasks tab on the Dashboard. The placement of this area sandwiched in between the tab area and the start of the tasks list was difficult for users to pick up at a glance. Users also felt that the Tasks tab was for pre-existing task assignments. They felt that starting a submission was a new activity and that it should reside in a different more prominent area of the site.

For users who were registered to multiple journals, they had an additional point of confusion in that they had to select a journal from a pull-down menu in order to enter into the submission process. Many users were not expecting this especially since they had usually logged in from a specific journal’s homepage. Also, the labeling of the drop-down as well as the drop-down menu itself is on the same scale as the other items inside the Tasks tab so it was easy for the user’s eye to skip over the menu all together when looking at the Dashboard.

Recommendation:

Since many users enter into the submission process from a start submission link or button on the journal's homepage, ensure that this public reader interface link can feed directly to the login and then send the user directly into the Submission screens and bypass the Dashboard.

For users who log into the system and then try to locate a start submission entry point, provide the start submission link or button in a more prominent location than under the Tasks tab of the Dashboard. Consider the possibility of placing this functionality within the global navigation area.

Since many Authors are usually logging in from a specific journal’s homepage and expect to have the submission process by default be for that journal, if an Author is registered for multiple journals and want the option to switch to submit to another journal have that as a secondary choice mechanism instead of the first step in the submission process. Also, apply more prominent labeling and instruction so that users are aware that they have to select a journal before entering into the submission process.
Author tried to find the submit button to the journal before logging in. It was not clear that they were not logged in or needed to log in prior to submitting their work.

For users registered with multiple journals, the drop-down functionality for submitting an article (and choosing a journal to submit to) is confusing and many users did not fully understand what they had to select.
During testing, users encountered three types of small pain points in the Upload module: interaction anomalies, labeling issues, and unexpected ordering of steps. While small, these pain points added up to hinder the user’s progress through the submission process and created a sometimes slow and choppy experience.

Within the Upload module, Author’s often missed or skipped over the mandatory File Contents drop-down menu partly because it is presented in a very narrow space and the users’ eyes tended to skip over that area and hone in on the file upload area and partly because if the user did notice it they did not understand what File Content was and did not think it was important. As mentioned in the Workflow management section, File Contents is a label synonymous with Article Element and Genres within OJS and is a third label that is used to identify the same set of file definition parameters. Another issue with the File Content drop-down is that the genres within the menu often appear in different order in different areas of the interface.

The Upload File section below the File Contents drop-down is also tricky to use because the user must drag their file into a very small space in order to drop it down for upload, and then it does not upload immediately as most users expect. Users do not realize that they must press an “upload” button so they end up trying to go to the next step, find that they cannot and then stop in confusion and asked the test mediators for help.

On the next tab within the Upload module, “Finishing Up.” Users have the option of “submitting a new file,” users thought that this meant a new article, not supplementary or related files to the article they had just uploaded. Users also did not think that adding supplementary files was a “finishing up” step and were therefore even more confused by the tab.

Lastly, Authors are asked to enter metadata twice throughout the entire Submission process: once for the file-level metadata inside the Upload module and then for the article-level metadata within the larger Submission area. Users did not understand the difference between the two data entry points and therefore were confused as to why they needed to enter the same information twice. Authors tend to be one of the user groups that are more likely to include new users who have never experienced a particular OJS instance before. Thus, the added instruction and design effort to break down some of these small pain points will enhance these users’ overall experience and cut down on the amount of customer service time that Editors and Journal Managers have to conduct in order to facilitate Author submissions.

Recommendation:

- In the Upload module, if the File Content drop-down menu is important then use numbering and add more whitespace around the File Content area and the Upload File area so that users have enough spacing and visual cues to realize that there are two discrete steps that are occurring in this tab and that both need to be fulfilled in order to progress to the next tab.
- The drag and drop file upload area needs to be increased in size. Conduct a brief environmental scan to see examples of other systems and online websites with larger drag and drop areas. After dropping a file on the drag and drop area upload should occur automatically.
- Consider allowing supplemental file uploading in the same upload tab as the main submission upload. There are many examples in content management systems and wikis that allow users to upload a number of different files all within the same upload area.
- Introduce the idea of file-level metadata vs. article-level metadata earlier on in Submission Guidelines and also provide clear labeling and explanation along the way on both the file-level metadata screen and the full article-level metadata screen so that users understand while they are going through the process the difference between the two screens and the information that needs to appear in each area.
Wishlist:

One user wanted to include the “ORCID ID” with the metadata of their initial submission.

Bug:

When an Author enters the “Submit Article” page on the “Start” tab, sometimes the “Save and Continue” button at the bottom of the page does not appear. The Author does not notice this until they have completed the steps on that page and scrolled down to the bottom of the page. They are then forced to refresh the page and repeat those same steps over again in order to continue.
Users expected the file to be uploaded automatically. Users were confused as to whether this action led to adding supplemental files or submitting a new article. Uploading area is too small.
Authors are asked to enter metadata twice throughout the upload process without explanation. Users did not fully understand the difference between file-level metadata and article-level metadata.
BARRIER 4: EDITORIAL PROCESS

The Author’s view of the article-level editorial process contains all stages of the editorial process (Submission, External Review, Copyediting, and Production) displayed via expandable and collapsible sections. When the Author arrives at this page, the various sub-sections are difficult for them to navigate. Even though the sub-sections are laid out in a linear list fashion, the user still has trouble navigating between sub-sections. This was partially due to the Author’s unfamiliarity with the tasks that needed to take place within each sub-section. While Authors are familiar with the general editorial process, the details of when to upload, download, or review information was difficult for them to decipher on this screen. As well, once the sub-sections were expanded, the font size of the header and the font size of text within each sub-section was the same so if more than one sub-section was expanded at once the sections seemed to bleed into one another and the users found it difficult to discern the beginning of one sub-section from another. If a sub-section contained a lot of content, then it became nearly impossible for the user to comprehend the separation between the sub-sections as well as read and digest and understand what they needed to accomplish within each sub-section.

One example of how the expanded content could potentially throw users off was when the External Review information comes in from the Reviewer. The entire email that Authors received from the Editor regarding their article submission is displayed within the External Review sub-section. Authors only need the actual comments and reviews under that sub-section; however, the extra information in the email puts them off and makes it difficult for them to understand how to read the review comments, figure out how to upload newly revised submission content and send it back to the Editor.

Another issue, that hindered the Author’s ability to easily scan and read content under a sub-section, was the appearance of a horizontal scroll bar in certain sub-sections. The horizontal scroll hid some content from the Author’s field of vision.

Recommendation:

- Consider adapting the general idea of the progress bar page design from the Editor’s view of the editorial process to the Author’s view. Any adaption of that design would need to address the design caveats and concerns brought up in the Editorial section. This page design may help give more real estate to each sub-section and give a better sense of demarcation between each area for increased ease of use.
- Article page needs to be constructed with more clarity. Using larger and more distinct headings and using numerical ordering to help users understand which steps should be taken next would also aid in ease of use. It should be very clear what the Author needs to do in the future, what they have already completed, and what someone else is going to do with their article moving forward.
- This clarity needs to exist not just at the page level between the sub-sections but also within the sub-section itself. Ensure that the content and features within each sub-section is clearly laid out in a step-by-step fashion so users understand what their tasks are for each of these stages. For example, under “External Review,” instead of displaying the entire review notification email, streamline display so that only the Editor’s direct note and the review are displayed to the Author. Clearly lead users from reviewing “Review” content into uploading new “Revised” content in this sub-section.
- Remove horizontal scroll bars.

Bug: When a submission title is too long, only the first 3 letters of the Author’s name appears at the top of their Article Submission Page. When Authors first view the article-level screen without the article title on display, they become thrown off by their location. It is important for the full article title to be displayed prominently so that users have a contextual understanding of their location at the article-level.
Author was confused by seeing the entire email from the Editor under External Review.

Author submission page is too confusing with not enough explanation. Author did not know what to look for and where to go for what they needed.

Horizontal scroll bars.
Communication between key players during the editorial process is not clearly defined from the Author’s perspective. While in the editorial process, Editors are always aware of when they send communication to an Author; however, the same cannot be said on the Author’s side. Sometimes Authors are prompted that an email is being sent to the Editor, but other times Authors received no confirmation that notification is being sent to the Editor that a task had been completed. This would concern the Author and they posited that they might need to send a separate message through their regular email. Greater transparency was needed in the notification process so that Authors had reassurance that their completed activities were being communicated to Editors.

Authors also expected transparency during file upload. They wanted to see all versions of their previously uploaded files in one area so that they could be certain that any new file they were uploading was not a repeat of a previously uploaded file. In general, they wanted more transparency during the editorial process so that they could ensure that they were not causing unnecessary delay or work duplication.

**Recommendation:**

- Allow for Authors to send an email notification every time they complete an action that involves another user in OJS or allow them to receive a confirmation that a message has been sent whenever they complete an assigned task.
- Organize all of the Author’s submissions, reviews, and notes that they exchanged with the Editor in a clear timeline display so that the progress of the editorial process is apparent and transparent to the Author.
Author is not sure whether or not an email or notification has been sent to the Editor to let them know that their re-submission has been uploaded.
This section covers the email and system interactions from the perspective of the External Reviewer as they conduct their work during an article’s review process.

Skip process screens and go directly to user perspective.

**Step 1:** The Reviewer receives an email from OJS (sent by the Editor) asking them to be an External Reviewer for an article that was submitted by an Author. From the email, they read the abstract for the article and decide whether or not they would be an appropriate reviewer for the article. They also look to see the due date for the review.

**Step 2:** The Reviewer logs into OJS and is prompted on the Request tab with the same information that they received in the email and either declines the request, or accepts the request to complete the review by the required date.
Step 3: The Reviewer reviews the guidelines that the Editor set forth for the review on the Guidelines tab. [Note: To streamline testing preparation, we chose not to populate the Reviewer Guidelines.]

Step 4: On the Download & Review tab, the Reviewer reads the article to be reviewed, makes their notes on the actual article document (if they choose to), uploads their document with the notes, writes in their recommendation, selects an encompassing recommendation from the drop-down, and submits their review.
**Step 5:** The Reviewer views the final article after the Editor has published it under the Archives tab under their Dashboard.
USER PERSPECTIVE: EXTERNAL REVIEWER

Reviewers receive an email from a publishing system (usually sent out by the Editor) asking them to be an External Reviewer for an article that was submitted by an Author. They need the following information in the email so that they can make a decision regarding their ability to review the article.

- Abstract- in order to understand the subject matter and intent of the article and determine conflict of interest or field knowledge
- Due date- in order to understand timeline and determine availability to conduct review
- Direct links to accept or decline review
- Username and password, in case direct links to accept, decline, and view content are not available in email

Reviewers are usually pressed for time and do not want to have the burden for any extraneous setup tasks besides the review work. After Reviewers are in the publishing system, they read the article, write their review and then submit their work to the Editor. Reviewers need these steps to be clear and easy to complete. The easier the review process is, the more likely they are to accept future review tasks from the same journal.

After the editorial process has been completed, Reviewers would like to view the final published article and see which of their recommendations were taken into account for the final publication version. Reviewers would also like to be able to see how many reviews they’ve conducted over the course of a year. They may want to keep track of their review work for professional reasons.

BARRIERS AND RECOMMENDATIONS

The majority of barriers that users faced when navigating the external review process were similar to findings from other sections of the OJS interface. Users generally had trouble scanning emails, understand the difference between a variety of link treatments, and the layout of the Request and Review pages.

BARRIER 1: EMAILS

As stated in previous sections, Reviewers had trouble scanning emails from the system in order to quickly understand what was being asked of them: they were confused by the subject of the email, the placement of paragraphs and sections, and the placement of links (journal link, article link, reset password link, etc.). They needed to able to quickly digest the email and make a decision in a timely matter so that if the Reviewer agreed to the process that both the Reviewer and Editor could start work on completing the editorial tasks that lie ahead and also alternatively to notify the Editor in case the Reviewer wants to decline and the Editor needs to find an alternative Reviewer.

Positive Feedback:

Reviewers appreciated having the abstract come directly in the email without having to log into OJS.

Recommendation:

The basic layout of the email that the Reviewer receives needs to re-designed to accommodate for: easier scan-ability, more logical organization of the email content, and specific links to the journal’s website, the article they are being asked to review, and their profile on the OJS system.
Wishlist:

If a Reviewer has already decided that they do not want to accept the review, they would like the ability to simply decline the review task from their email without having to log into OJS. For example, some systems have separate accept and decline links embedded in the email for users to follow.

Reviewers are confused by the abbreviation in the subject line they do not understand that it is the shortened form of the Journal’s name.

These arrows point out the places where links are placed in the email. These links are placed in such a way that makes it tough for the potential Reviewer to easily scan and digest the contents of the email.
There are inconsistent link styles on the Request and Review pages that lead to confusion over ordering and prioritization of the Reviewer’s next steps. Reviewers were confused by the Request page (where the reviewer is asked to accept or decline the task of review) and by the Review page (where they download, review the article, and then upload and paste their review and give a recommendation). The links and buttons are inconsistently designed with different color, size of button, font size, type of link, and placement. Reviewers were uncertain as to what they should pay attention to, which specific steps they needed to take for the results that they wanted, and which links/buttons would take them to their desired results. Clarity in what lies ahead for the Reviewer and how they will go through the process is important in order to minimize confusion and decrease the chance of possible errors since Reviewers are the user group that interacts with OJS the least out of all the user groups.

Recommendation:

On the page where the Reviewer needs to decide whether or not to accept the task of reviewing the article, change the links indicated below into buttons with consistent coloring and design so that the Reviewer understands implicitly the options for the functionality available on the Review module (For example, Reviewers need to understand that continuing and accepting the review means that they are committing to completing the review within the time allotted.

Wishlist:

As stated in the previous barrier recommendation, if a Reviewer has already decided that they do not want to take on the review, they would like the ability to simply decline the review task from their email without having to log into OJS.
Again, on the Review page, the blue link style is inconsistently applied to different levels of information and actions.
BARRIER 3: REQUEST AND REVIEW PAGES

The layout and design of the Request and Review pages are difficult for users to navigate and could prevent the Reviewer from successfully completing all of the review steps in a timely manner.

The Reviewers were confused as to what the button "Accept Review, Continue to Step #2" (on the first Request page) meant. They wondered if they were accepting the task of completing the review or simply moving onto the next step. Many Reviewers failed to see the tabs at the top of the page since they were shaded out. Reviewers also failed to clearly see all the steps they needed to take in order to complete their review. For example: if they uploaded a document, why did they also have to write-in notes under "review" as well as select a "final recommendation" from the last drop-down. Most Reviewers tested missed the “final recommendation” completely. Reviewers want to understand what steps they were going to have to complete before they accepted the review task.

Positive Feedback:

When a reviewer missed a step in the review process, bright red outlines clearly showed them what they missed and needed to complete before submitting their review. [Note: This error handling is not something that occurs in other areas of the system.]

Recommendation:

- Steps to completing a review should be outlined before the Reviewer begins the process. This will help users maintain clarity regarding next steps throughout the process.
- The main review page should clearly describe to the Reviewer that they can either upload and attach their review or type their review into the space provided. Reviewers do not always know if they can just use one of the ways to submit a review or if they have to fulfill both ways.
- The last section of the review titled "Recommendation" should be labeled as a required review step.
Not clear to all users that this button was “agreement” and “continue” in 1 button.

If a Reviewer only uploads a document, it then turns out that they have to also type something into this box. Reviewers were very confused by this.

It was not obvious to most reviewers that they had to choose a recommendation in addition to their review.
BARRIER 4: DASHBOARD’S ARCHIVE SECTION

Once a Reviewer completes a review, the review vanishes from their OJS Dashboard and the Reviewers can only view the final article once it is pushed into the published (or declined) stage. The article then shows up in the Reviewer’s Archives tab under their Dashboard. The Reviewer can no longer read their review. They also cannot read the article until it is published. The Reviewer also cannot see the status of an article as it moves through the rest of the editorial process.

Recommendation:

- Reviewers would like to be able to see their submitted review with the article that was published as well as all the past reviews that they have completed - whether or not the article ever reaches the final published stage.
- They would also like to be able to view the status of the article so that they have some sense of how the article is progressing through the editorial process.
SITE-WIDE FINDINGS

There were several site-wide findings that were uncovered during testing. These findings have been consolidated here to ensure that the development team is aware that these issues are occurring not just in specific sections but globally in many different areas of the site and workflow.

EMAIL

Currently, there are 67 default email templates available to users in the OJS system.

Users can edit wording in the body of the email; however, there is little instruction for users on how to compose or generate links to articles or journal level entry for placement in these emails. As well, the default email titles cannot be edited. These titles are often the cause for confusion for end-users who receive the emails, since they do not always align with the default text found in the email body. The default text is also difficult for users to scan and read. We also received comments during testing that the language used is rude or harsh. It is also difficult for Journal Managers and Editors to understand which email templates are occurring in which areas of the workflow process since there is no mapping or instructional labeling available on the Email template page.

Recommendation:

- Allow users to edit email titles for all default email templates.
- Give in-context instruction on how users can generate or compose automated links to content for their emails if these links do not occur in default email text.
- Create a contextual description for all email templates so that users can understand where they occur within the editorial workflow.
- Ensure that all email titles have some connection with task descriptions found on the Dashboard since many tasks found on the Dashboard are preceded by an email notification.
- Re-write all baseline email template messaging so that more neutral language is utilized. Add better spacing and sentence and paragraph arrangement so that end-users can scan and read the information presented in an article more quickly.

**TIMESTAMP**

Many users tested commented that it is important for them to not only see that a task needs to be accomplished or that a new submission has been uploaded but that they need a timestamp for the file as well. Without knowing the date and time for an incoming file, users cannot track activities and assignments as well.

**Recommendation:**
Add a timestamp in areas where incoming submissions and files are listed on the Dashboard, article level pages, and Editorial History menu, and article/issue publication areas.

**VISUAL DESIGN**

The visual design style for OJS 3.0 utilizes a pale blue and white color palate with delicate font selections, small graphical elements and iconography, as well as minimal spacing between major page sections. For a system that requires complex multi-step interactions to complete tasks, this design aesthetic, while clean and minimal, makes it difficult for users to pick out crucial page elements such as workflow status, action links or buttons, and even links that take users to important functional areas.

**Recommendation:**
Work with a visual design resource to design a new visual vocabulary for the OJS system to ensure more visible and eye-catching iconography and font styles. The visual designer could also provide assistance designing page layout that allows for more spacing and visual separation between crucial elements within the editorial process.

**ERROR MESSAGE PLACEMENT**

One interaction difficulty that occurred for users was the placement of error messages. Error messages would appear in the upper right corner of a page. After a few moments, the message would recede into a pull-down menu where users could view a list of error messages that had occurred during their session. The majority of users tested missed the error message because it appeared outside their field of vision. They would often continue to attempt the action that had triggered the error message since they did not immediately understand that an error had occurred.
Recommendation:

Move error message down into a more central placement directly in the user’s field of vision so that they are aware an error has occurred. Many of the system’s confirmation messages are placed more centrally. It would add overall site consistency if error and confirmation messages are placed in the same area. As well, if an error occurs in a form, outlining the field that needs fixing would be helpful for the user.

OPERATIONAL FINDINGS

During the course of the evaluation project, CDL’s UX team also encountered a number of operational findings that we believe to be of importance. We have enumerated them here to provide PKP with additional findings that would normally be deemed outside the purview of a user interface review. We believe that these findings do have direct ramifications on the overall user experience of future iterations of the OJS system. We have expressed these as operational findings that are mainly related to development team structure and the transition of legacy data from previous versions of OJS into the OJS 3.0 version.

FORMAL USER PARTICIPATION CHANNEL

Even though the testing process was quite rigorous and oftentimes involved evaluation periods that ran over the agreed upon one hour time allotment, all users interviewed and tested during this period expressed heartfelt thanks for their inclusion in the process. The opportunity to demonstrate, discuss, and express their opinions about the new
interface, voice frustrations and share with us how they work with OJS to accomplish their scholarly publication activities was something that they not only valued but were hungry for. Furthermore, many of the user participants from the testing as well as institutional representatives from the PKP Members’ Committee were also interested in assisting our team in helping to set priority levels to the findings to further express to the PKP team their system needs and concerns.

**Recommendation:** Provide the user community with a regular annual or bi-annual (twice a year) online venue to send in desired fixes, enhancements, and future feature requests. Create a process where the user community is allowed to vote on an aggregated, community-generated list of fixes and recommendations. Share with community the decision-making process for prioritizing development work and responses for items in the prioritized list for the year. This formalized channel can be an online process utilizing existing polling or survey services. This process gives the user community a sense that they can actively participate in strategizing with PKP what is necessary for the continued success of the OJS system. An example of such a community-based process can be found via the Ex Libris Users of North America (ELUNA) community.

**DESIGN AND DEVELOPMENTAL TEAM STRUCTURE**

The PKP development team has undertaken the tremendous work of both designing the user interface and developing the code for a complex journal publishing system. We learned through this user evaluation process that many user workflow needs had not been met, not for lack of intent by the team but because of the lack of a dedicated UX resource to gather, synthesize and articulate the design goals for a cohesive user experience for the OJS system. The splitting of the design tasks by the internal development team, especially within an agile development process, by its very nature compartmentalizes the design into smaller segments. However, one major finding from our evaluation is that in fact the overall user interface design needs to be solved in a more holistic manner with design thinking at first the granular screen and functional area level then secondly woven back in at the system-wide level. This back-checking ensures that many common elements that live across the entire system, such as global navigation, article status descriptions, upload area interaction specifications, etc. are re-calibrated as each new re-designed piece is fit back into the whole. This design workload is best executed by a resource that has a direct link to a user community communication channel or dedicated user services’ group. This resource can also collaborate closely with the development team to ensure technical feasibility of desired user features. By its nature the development team’s concerns regarding the code can at times prohibit their ability to separate out a real user need from the efficiency needs of the code structure.

**Recommendation:** Enlist a separate resource to handle the synthesis of user requirements into the details of design, thus alleviating the double duty burden placed on the development team to fulfill two operational roles. A dedicated UX resource also provides a team member more directly able to advocate for the user community’s needs and create more user-centered design specifications.

**LEGACY DATA**

During the evaluation process, we experimented with migration of one journal’s worth of data into one test instance of the new OJS 3.0. The legacy data was migrated in from an OJS 2.3.8 instance. The journal contained data in various stages of the editorial process with some already published and others in the midst of the editorial review. Upon initial review of the data in the system, we realized that the imported legacy data did not contain the necessary status and metadata assignments that are being utilized in the OJS 3.0 alpha instance. We determined that some of the missing data was due to user omission and some was due to the fact that earlier versions of OJS allowed for fewer metadata fields in place. The outcome of this discrepancy means that the dashboard element that is the main artery down into the article content cannot be utilized correctly. Articles, that should have appeared either in the Archives tab as
published or in the “Unassigned” queue under the Submissions tab, were listed en masse in the “Assigned” queue. Beyond the user interface fixes depicted in previous sections of this report, this finding is the most crucial to proper usage of the new 3.0 alpha interface.

**Recommendation:** If legacy data is somehow lacking due to user error or previous OJS version discrepancies, then guidance and instruction as to how community users can edit, add, or delete the necessary fields in order to properly allocate their legacy data into the new system is not only a recommendation but would be a requirement for effective use of system.

**QUALITY ASSURANCE TESTING**

A great deal of the preparatory time for the OJS evaluation was spent walking through the test scenarios in the alpha system to ensure that functionality was working as it should. It would streamline future functional evaluation if separate quality assurance testing was also planned and conducted. This step would also help to make a more efficient and effective product development cycle that releases a more viable and usable product out of the box. The complexity of the system requires a thorough quality assurance test to ensure that basic user experience, such as cross browser platform compatibility, testing of third party WYSIWYG widget usage, and other more UI elements operate with intended functionality.

**Recommendation:** Quality assurance planning and execution will formalize and make more efficient the release of future versions of OJS, ensure a product with fully realized functionality, provide the user community with a sense of trust for the system, and secure continued loyalty and adoption for the OJS system as well as the entire suite of PKP services.

**CONCLUSIONS**

At the conclusion of the OJS 3.0 alpha evaluation project, the PKP team has made the decision to commence the design and development phase with their internal development staff. The CDL UX team is handing off the evaluation findings via this report. We had intended to reach out to recruit from the testing pool as well as the PKP Members’ Committee to initiate a more granular priority setting exercise among member institutions. However, due to the timing of the report’s release and PKP’s timeline drivers, the community-based prioritization exercise has been deferred. We hope the findings and rationale in this report will aid the development team in understanding the core information architecture re-structuring and page-level redesign that needs to be addressed in order for a truly functional user experience to be established. We reiterate the overview of the more crucial finding areas discovered in this evaluation.

- Dashboard queue layout refinement and addition of filtering
- Proper display of legacy data within dashboard construct
- Re-design of global navigation and streamlining of user entry points into system
- Clarity to layout and configuration for entire editorial process (submission, editorial, copyedit, and production stages)
- Consolidation of user account creation, role assignment, and assigning user/role functionality at system level, journal level, and article level
- Consolidation of publication functionality as well as manage/create issue area
- Better placement for "Start a new submission" entry point
- More visibility for all files and variations of files that they submit and move through the editorial process
- Timestamp addition to dashboard and article-level pages as well as file versioning area
- Visible and accurate status and article title on all article level pages throughout editorial process
• Reconciliation and consolidation of all status labeling across email notifications, dashboard descriptors, and article level screens.
• Email notification refinements (ability to edit titles and configure emails)
• Reconciliation and consolidation of journal setup and configuration areas
• Reconciliation and consolidation workflow configuration area
• New feature: ability to hide or take out areas of workflow that user does not need
• Addition of more contrast colors, relevant and visible iconography and better font relationships to overall visual design of system
• Introduction of a UX resource into the design and developmental team structure
• Introduction of a QA resource into the OJS development process
• New feature - addition of search to find content currently under editorial process
• Establishment of a formal user representation channel

In the course of our work with PKP, we have come to understand the group’s desire to provide a solid out of the box experience for the core OJS functionality with the hope that the community of OJS users will contribute in support of their own customization needs. Our findings suggest that, in order to provide a solid foundation of core functionality upon which locally developed functionality can easily be layered; the baseline system is in crucial need of better functional consolidation, organization, and linear process depiction. OJS is necessarily a complex system supporting complicated publishing activities, but there is an opportunity here to dramatically enhance the clarity of this system for its users. Once this important redesign work is accomplished, users will more easily be able to adapt the baseline system to meet their diverse publishing requirements and practices. This work is essential in order for OJS to maintain its standing as the primary open source publishing platform for non-profit academic publishers.
The evaluation project wiki is open to all report readers and contains the following project materials for reference.

- Project roster
- Project events
- Test scenarios and scripts
- Presentation of environmental scan of publishing workflows
- Presentation of findings for PKP team
- Additional resources used during discovery period