Case Study 2: Open Access Button in Existing Discovery and Interlibrary Loan Systems at the University of York

Produced as part of Work Package 2 for the "Exploring the opportunities for an Open Access Button enabled discovery/ inter-library loan service" project.
Prepared for Jisc by the Open Access Button.

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Summary

In this case study we investigated the technical feasibility and desirability of an OAB-enabled set of interventions in the discovery to delivery workflow inside traditional library systems. We conclude that this is feasible, with many routes to delivery.

At York, we found that, when content was unavailable, Open Access Button technology can reduce the steps required to access content by as much as 10x. This could be achieved by integrating all the library's discovery and delivery systems, and crafting a clearer user journey between them - one where green Open Access is surfaced as early as possible.

We'd like to thank the staff at the University of York (especially Kenny Whyte, Paul Harding and Sarah Thompson) for their time, expertise and openness during this case study.

Background

This case study forms part of a broader Jisc project with the Open Access Button to assess the feasibility of a service in the discovery/interlibrary loan (ILL) workflow utilising Open Access Button functionality to aid the discovery, creation and promotion of open access content. The case studies have run in parallel with work package one, which gathered evidence from a range of institutions as to how the creation of a service could deliver the most benefit to the most institutions by developing use-cases to articulate where the service could sit within the discovery/ILL workflow. Within the case studies, we aim to understand the feasibility and desirability of each of the use-cases in greater

depth at institutions. These two bodies of work will then inform the development of an assessment in work package three of whether there is value in developing any potential service further.

In work package one, we found that institutions wanted users of library discovery and delivery systems to benefit from green Open Access content, and saw a role for the Open Access Button there. We concluded that we should focus our interventions on library "link resolvers," "library search," and existing ILL forms, as they have received substantial investment as the primary route for libraries to deliver access to subscribed content.

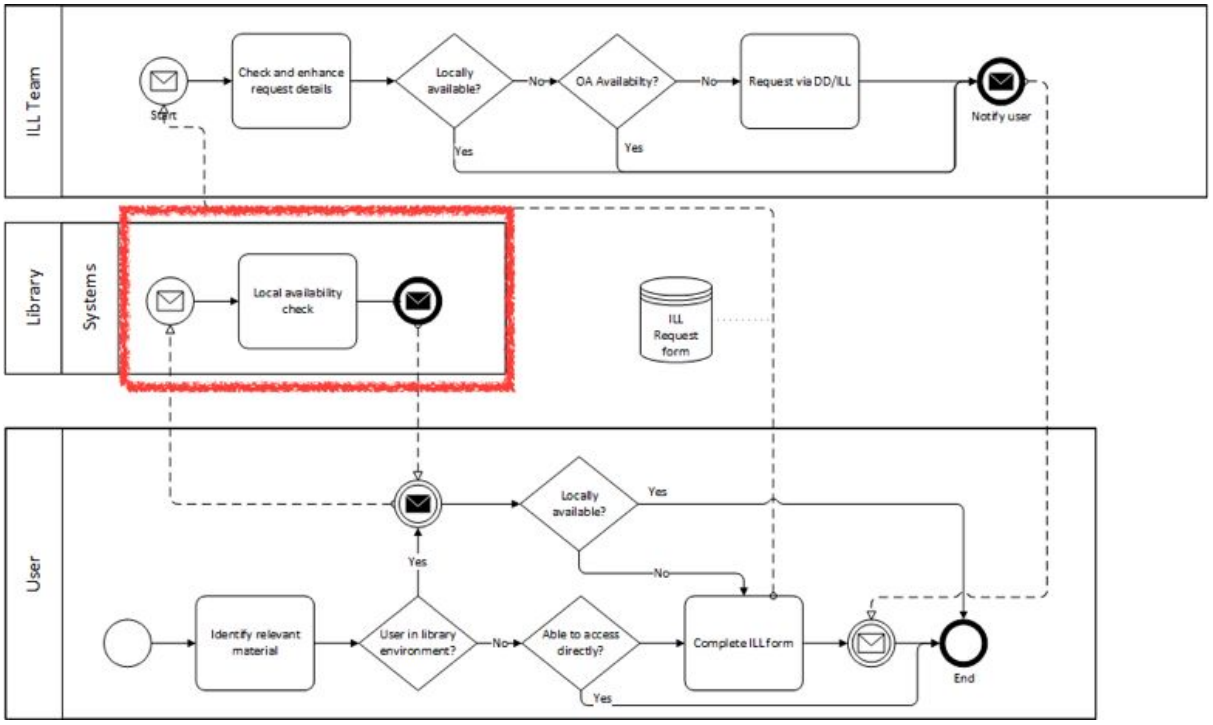


Figure 1. A diagram showing a traditional "discovery to delivery" pathway based on interviews carried out with 15 UK university libraries. The intervention points explored in this case study are highlighted. For more, see the work package one report.

The University of York was chosen for this work due to their interest in improving user experience and use of Ex Libris's Primo and Alma, systems we already had experience with.

In this case study, our objectives were to use the Open Access Button's ability to find and make available Open Access resources, and UX expertise, to:

1. Identify how we could deliver existing Open Access content as soon as possible within library search
2. Identify how we could deliver existing Open Access content as soon as possible within link resolver systems
3. Identify how we could streamline access to unsubscribed content, through ILLs and requests to authors

This is one of three case studies exploring opportunities based on previously identified use-cases. Case study 1 at the Imperial College London aimed to analyse the potential impact of stand-alone apps for delivering library services. Case study 3 at the University of Huddersfield aimed to simplify and enhance ILL forms, while streamlining ILL staff workflows.

Current workflows and challenges

We asked campuses to write up and screenshot their workflows. These were then reviewed remotely, and viewed in-person to clarify and expand how the systems worked and felt. The main workflows we sought to understand included the following starting points, with content available and not available:

- Specialist databases
- Library search
- Google Scholar

To understand how these workflows were shaped by staff requirements, we also briefly examined ILL management workflows.

To establish a metric for the effectiveness of a workflow, we analysed the number of steps required from a user to achieve an objective. Here, a step may be clicking a link or button, or filling in a field. For this purpose, we've assumed a user's objective is landing on an article splash page (as clicks required to access full text may vary by journal).

Workflows	Content is available through subscriptions	Content isn't available through subscriptions	Challenges
Library Search	● User arrives on search page. Selects search option prefered (optional). ● User does a known item search. Clicks search. ● Item is shown. User clicks "view online". ● User is presented one or several potential links. User clicks preferred link. ● User lands on article splash page. Metrics: 3/4 steps.	● User arrives on search page. Selects search option prefered (optional). ● User does a known item search. Clicks search. Either: 1. No results are shown. User is presented with link to ILL among other suggestions. a. User lands on ILL landing page. Selects journal form (ignoring help pages). i. Must sign in. 3 steps required. 1. Inputs information required. 2x steps for each field. 2. Some results are shown, but not the desired option. User clicks "expand my results". Either: a. Article they want with notice of "no full text available". No further options presented. b. Article they want isn't available. Link to ILL at top of screen can be clicked. i. User lands on ILL landing page. Selects journal form (ignoring help pages). 1. Must sign in. 3 steps required. a. Inputs information required. 2x steps	● Unclear what different search options entail. Library default doesn't appear to be most comprehensive or useful. ● "View online" presents an unclear menu, with few clear links direct to article. "View online" menu is present even when you can't actually view, without a link to ILL or help. ● Several places users may expect to be able to click for full text do not actually do this. E.g the article title & "Full text available" statements. ● Search interface feels cluttered, and unintuitive. URLs look unfamiliar and are hard to remember. ● Navigation is unclear. E.g "guest" & "login" shown, where only one is actually need. "Interlend" is not a word many know. Navigation off site is below navigation

		for each field. Metrics: ● Route 1: ~ 20 ● Route 2: ~ 20	within site. ● Sidebar is confusingly arranged. ● As a tool for discovery, it seems unusual to exclude content by default.
Specialist Databases (via link resolver)	● Link resolver is shown. User clicks. ● User is taken to splash page. User identifies link to click to go to article. ● User lands on article splash page. Metrics: 2 Steps.	● Link resolver shown. User clicks. ● Splash page is shown. No clear link to ILL system. Either: 1. User goes to ILL form. a. User lands on ILL landing page. Selects journal form (ignoring help pages). i. Must sign in. 3 steps required. 1. Inputs information required. 2x steps for each field. 2. User gives up. Metrics: 1. 16 steps. 2. Infinite.	● Link resolver splash page is poorly designed, and link to article hard to find. ● Without link resolver being visible, no guidance to the user can be provided. ● Link resolver is often displayed alongside sources a library doesn't trust, which are often faster. ● Off-campus, the link resolver isn't shown. Not being logged in looks like library not having access.
Google Scholar (via Link resolver)	● Link resolver is shown. User clicks. ● User is taken to splash page. User identifies link to click to go to article. ● User lands on article splash page.	1. Link resolver not shown. Either: 1. Go to "Library Search". 2. If known, go to "ILL form". a. User lands on ILL landing page. Selects journal form (ignoring help pages). i. Must sign in. 3 steps required. 1. Inputs information	● Link resolver splash page is poorly designed, and link to article hard to find. ● Without link resolver being visible, no guidance to the user can be provided. ● Off-campus, the link resolver isn't shown. Not being

	Metrics: 2 steps.	required. 2x steps for each field. 3. User gives up Metrics: 1. See Library search. +1 steps for going to search. 2. ~15 steps. 3. Infinite.	logged in looks like library not having access.

Table 1. A comparison of various existing workflows relevant to the case study for accessing articles.

Exploring OAB-enabled Workflows

We discussed with library staff why current workflows existed, the challenges they presented, and what potential solutions may be. After consideration and discussion, a short list of opportunities to intervene was generated. While our discussion was informed by what we've heard from other campuses, we kept York's workflows and considerations at the fore in this process. Staff highlighted the following as priorities:

1. Integration between library search & ILL
2. Creating a user journey across all of the library's discovery to delivery systems
3. Surfacing Open Access as early as possible in the user journey
4. Simplification and standardisation across the user journey

Working with our developers and designers, we analysed solutions to these challenges with staff feedback. This work was also informed by user testing (both live, and in user experience reports) of the systems, and by usage metrics provided to us. In this section, we'll speak to the feasibility and desirability of different interventions. In our work, a few simple rules guided us:

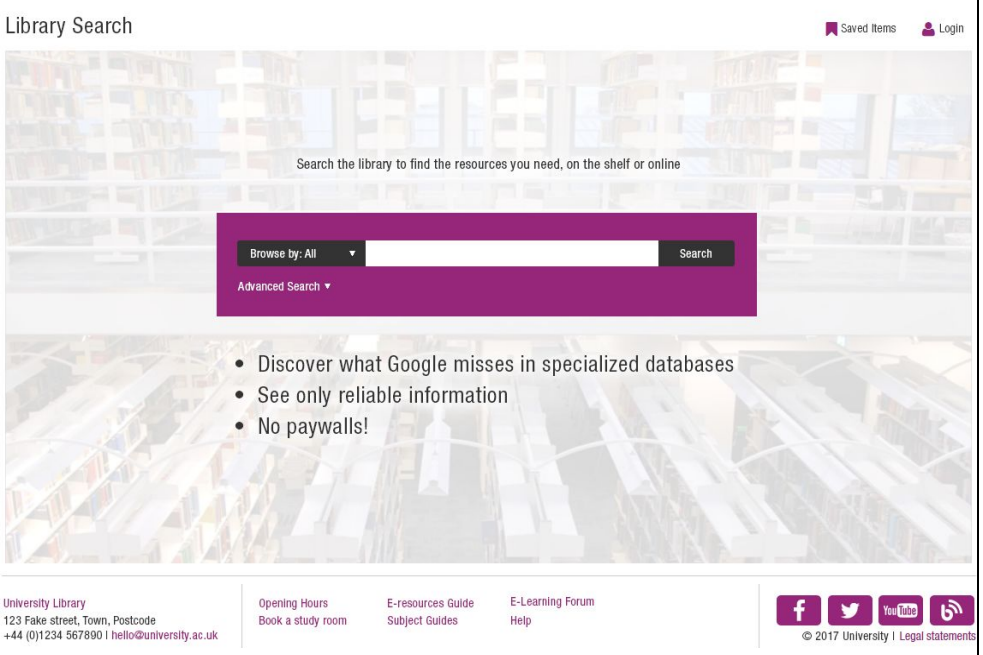
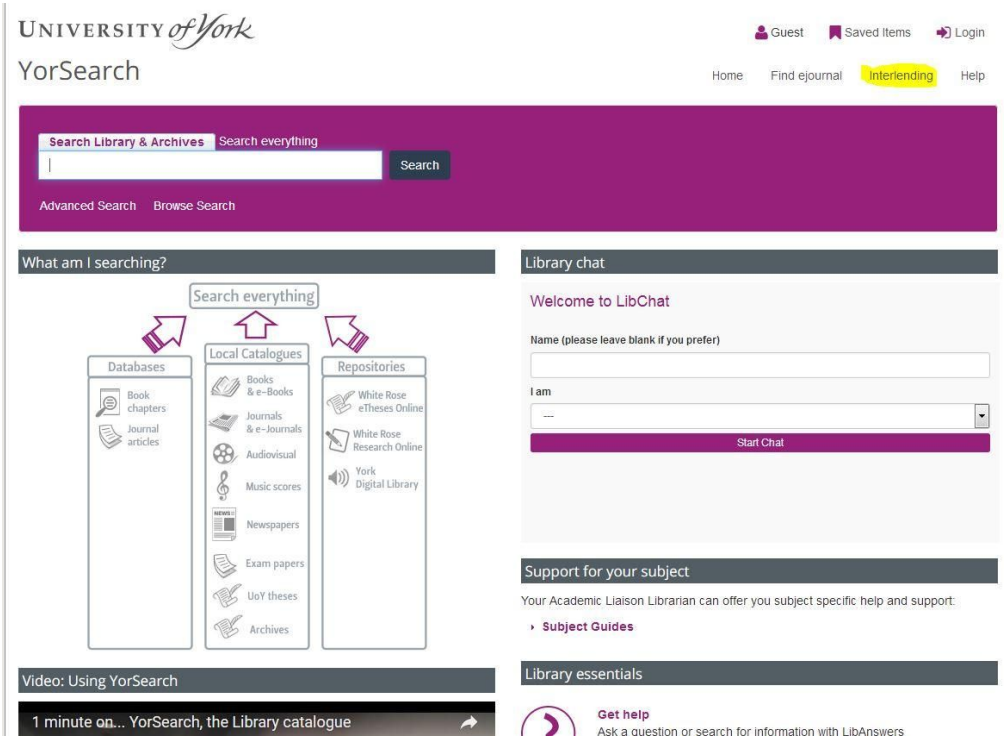
1. Use words users understand, and provide information only as needed
2. Limit complexity and standardise aggressively
3. Try to do work on the user's behalf, but plan to fail well

Please note that the following designs are to be used primarily for exploring possible implementations of a service. Their copy, styles and even user flow do not necessarily reflect a finished product. They are provided to make the ideas we're outlining more tangible, and enable better feedback and discussion - rather than account for every scenario or circumstance.

Identify how to deliver existing Open Access content as soon as possible within Library search

Initially, our approach to surfacing Open Access content in library search was narrow. Either add special links (in many possible places) or add records to the catalog (with Javascript, or APIs/data-dumps respectively). Similarly, for more effective ILL integrations we can use Javascript and the openURL standard to populate ILL forms for patrons.

We realized that simply adding features could add more complexity to an already cluttered and often confusing interface, worsening user experience. Since our goal was to improve the entire user journey, we looked more broadly at the interface to see what could be improved and simplified. This is reflected in our designs.

Proposed	Current
	

Analysis of the metrics of different parts of the homepage suggested little of it was being used. Much of the information could be condensed and presented elsewhere.
The addition of a strong, simple set of selling points for library search was added to help patrons understand that value of library vs. others (e.g. Google) and vs other activities of the library (so it’s not understood as a helpdesk, as it is often used).

A simplified, slim lined header and footer is used throughout to keep the screen free for content.

From a general user experience perspective, a few things were clear. First, the vast majority of options being presented weren't used. In response, we hid most of these. Second, we tried to optimize what people were doing. We classed those a few broad things:

- Filtering
- Browsing and storing
- Accessing

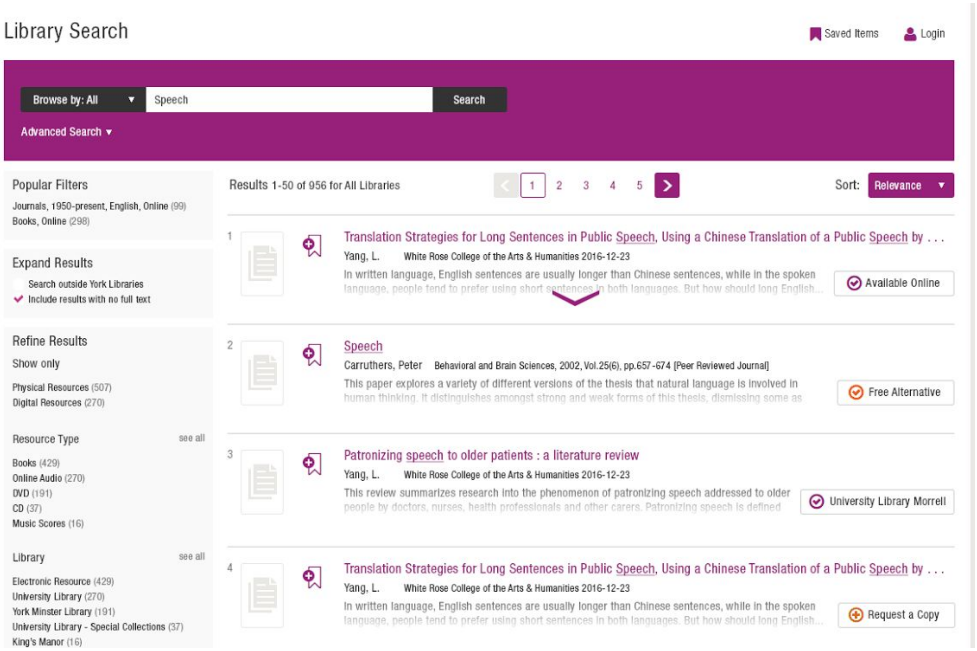
As such, we added "popular filters" which would quickly help users combine many filters into one action for common tasks. The ability to add items to 'your shelf" was highlighted and abstracts were displayed. Finally, access options were simplified down to a single button that displays the best option. These can be expanded to show all options though. Throughout, there are some general visual simplifications (e.g. halving the number of fonts used).

A few important access options are considered here. The first and third search result display traditionally promoted options, a subscription and local copy respectively.

Option two shows a "Free alternative". This is intended to be a record of a self-archived Open Access article, and this is the direct link to access the article. The language used here is crafted to avoid saying "Open Access", which may users may not understand, but also go further in helping a user interpret what they're accessing than simply stating "free-to-read". This record could be presented by making use of a data dump of self-archived articles.

Search result four simulates an article accessible only through ILLs. Here, users could click through to the final steps of the ILL process, where they'd be presented with their estimated delivery times.

While what shown here is a relatively significant interface redesign,



much of what described could be provided independently.	Search Library & Archives Search everything Interobserver variability in the CT assessment of honeyco Search Advanced Search Browse Search Looking for the Observer newspaper? - Observer Newspaper Personalize your results Edit Expand My Results Include results where no full text Show only Peer-reviewed Journals (64) Refine My Results Subject Pulmonary Fibrosis (23) Tomography, X-Ray Computed (22) Results 1 - 50 of 65 for *All resources including articles* Sorted by: Relevance 1 2 1 Article Interobserver variability in the CT assessment of honeycombing in the lungs Watadani, Takeyuki ; Sakai, Fumikazu ; Johkoh, Takeshi ; Noma, Satoshi ; Akira, Masanori ; Fujimoto, Kiminori ; Bankier, Alexander A ; Lee, Kyung Soo ; Müller, Nestor L ; Song, Jae-Woo ; Park, Jai-Soung ; Lynch, David A ; Hansell, David M ; Remy-Jardin, Martine ; Franquet, Tomás ; Sugiyama, Yukihiko Radiology, March 2013, Vol.266(3), pp.936-44 [Peer Reviewed Journal] Full text available View all editions or versions View Online Details Times Cited Citations Cited by 2 Article From "traction bronchiectasis" to honeycombing in idiopathic pulmonary fibrosis: A spectrum of bronchiolar remodeling also in radiology?(Report) Piciucchi, Sara ; Tomassetti, Sara ; Ravaglia, Claudia ; Gurioli, Christian ; Gurioli, Carlo ; Dubini, Alessandra ; Carloni, Angelo ; Chilosi, Marco ; Colby, Thomas V ; Poletti, Venerino Feedback

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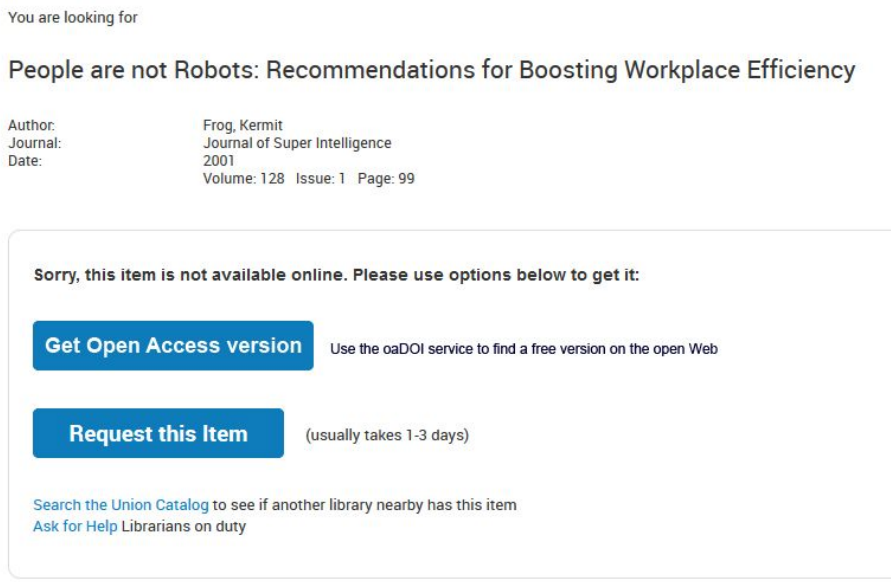

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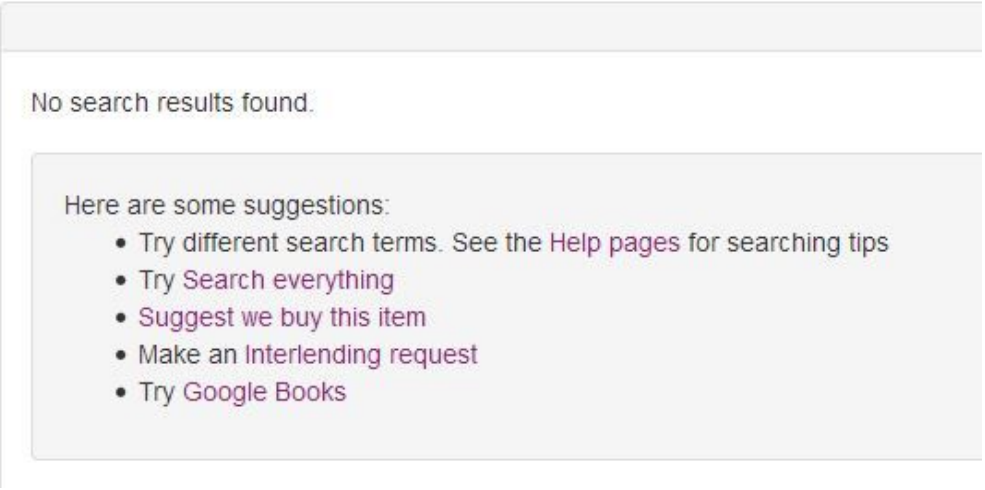

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<tr>
<td colspan="2">On default search settings, the library not having access to an article can present as “no results found”. Often in interfaces, this means the article doesn’t exist. We rated this as a key point to intervene; however during the project Ex Libris did just that. At that point, the feasibility and desirability of this was clear. See here for more information.</td>
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Table 2. Key points in a potential workflow, with justifications and descriptions, for library search. For all the designs shown, including high-res [images see our Github repository](#).

Many patrons come to library search to do a “known item search”. In this case, it has been suggested by others (and we agreed) that it should be possible and may be desirable to send users directly to that item. This would mimic how the Open Access Button homepage functions.

Identify how we could deliver existing Open Access content as soon as possible within link resolver systems

The following changes could be made by introducing a line of Javascript into current pages, or using self- or externally hosted pages. In the following setup, we’d like to consider ways to have the link resolvers shown regardless of whether the campus has access (in places like Google Scholar) so the campus always advertises a route for patrons to obtain legal access.

Description / Discussion	Proposed	Current
When the campus has immediate full-text access we've designed a clean and simple page. This was inspired by pages used elsewhere. Our preference would be that this page is actually not seen, and the user is simply directed to the article where possible. To handle errors, some institutions show a sidebar on the page they send users too. We didn't explore that further.	Tuning a cellular lipid kinase activity hepatitis C virus to replication in cell culture Meyrath, Ma Romero-Brey, Ines Schenk, Christian Gondeau, Claire Nature Microbiology, 2016, Vol 2(3) doi:10.1038/nmicrobiol.2016.247 Wrong article? We have the full article Click here or wait 5 seconds to be automatically redirected.	

UNIVERSITY of York

Go to YorSearch

YorSearch

Climate, aggression, and violence (CLASH): a cultural-evolutionary approach

Maria I Rinderu Brad J Bushman Paul AM Van Lange

Current opinion in psychology. , 2018, Vol.19, p.113-118

Fulltext available

View Online Details

Open source in a new window

Send to

Available at: Elsevier SD Freedom Collection

Where the library's catalog can point to self-archived Open Access articles, staff considered it important to provide education on what the patron would see and provide options to the ILL system. This page is designed to do that. If the link resolver was clicked for an article where the campus didn't have subscription access, but self-archived options existed this page would be shown.	Tuning a cellular lipid kinase activity hepatitis C virus to replication in cell culture Meyrath, Ma Romero-Brey, Ines Schenk, Christian Gondeau, Claire Nature Microbiology, 2016, Vol 2(3) doi:10.1038/nmicrobiol.2016.247 Wrong article? There is a free, instantly accessible copy online This may not be the final published version. It may be a version without graphs or images. You can request the final published version from the Library. https://core.ac.uk/download/pdf/77010622.pdf Ask the Library to get you the published full-text There is a £2 charge for each request. This request will take up to 8 calendar days to be fulfilled. Ask the Library.	The functionality for this doesn't exist in current link resolver systems.

Where no legal options for accessing work existed, the options for legal access (requests to authors and ILLs) can be presented. Library staff were surprisingly positive about the use of requests to authors as a “freemium” alternative to ILL, and were most concerned about exactly how this was presented. We originally framed this as a secondary option (far below ILLs in early designs), but moved it up based on their feedback. Where the ILL system was freely available, and there were few budget constraints, we’d expect for the option to email an author to be removed.	Tuning a cellular lipid kinase activity hepatitis C virus to replication in cell culture Meyrath, Ma Romero-Brey, Ines Schenk, Christian Gondeau, Claire Nature Microbiology, 2016, Vol 2(3) doi:10.1038/nmicrobiol.2016.247 Wrong article? Ask to make this research available The Library can contact the author on your behalf to ask that a copy be made freely available online, for your and other readers' use. This service is free, and may be faster than asking the Library to get you a copy. This may not be the final published version. It may be a version without graphs or images. You can request the final published version below. Ask for a free copy. Ask the Library to get you the published full-text There is a £2 charge for each request. This request will take up to 8 calendar days to be fulfilled. Ask the Library.

	UNIVERSITY of York YorSearch Methods of Calculating Stress Intensity Factors–Delaminations Leslie Banks-Sills SpringerBriefs in Applied Sciences and Technology , 2018, (9783319603261), p.3261-75 Check availability Find in Library Details Open source in a new window This item is not available. If you need to obtain this item please contact the Library. There are no services available

Table 2. Key points in a potential workflow, with justifications and descriptions, for link resolvers. For all the designs shown, including high-res images see our Github repository.

Identify how we could streamline access to unsubscribed content, through ILLs and requests to authors

This work is described in detail as part of Case Study 3.

Potential Impact

To estimate the effectiveness of our interventions, we obtained historical article ILL data from the campus and used the Open Access Button API to measure how much of it we could find in Open Access form. Other figures, such as estimates of cost, were requested to make calculations from this data. User experience improvements were judged informally through staff response, and quantified based on steps required to work through our product mock-ups (where applicable) and decreases in delivery times. The data and analysis used to generate these insights are available here.

We ran 3266 records and found 2.3% could be obtained through self-archived Open Access sources.

User Experience

Staff responded positively to all our interventions, and they expected users would too. Concerns were raised about our proposed presentation of the "copyright declaration," which were later addressed.

Workflow	**Traditional (content available)**	**Traditional (content unavailable through subs)**	**Proposed (content available)**	**Proposed (content unavailable through subs)**
Library search	3 steps	~20	2	2 (if OA) 3 (through ILL)
Specialist Databases (via link resolver)	2	16	1	2 (if OA) 3 (through ILL)
Google Scholar (via link resolver)	2	15+	1	2 (if OA) 3 (through ILL)

Table X. A comparison of the steps required for a user to access content with existing technology vs the solutions proposed above.

The average delivery time was about 5 days (from request creation to content delivery to a patron). Utilising self-archived Open Access content (assuming this was delivered instantly), this would drop to 4.9 days. 2.4% of content could be delivered instantly.

In running the ILL data, it was clear our "false positive" rate was far too high. It could be as high as 7.5% of the entries run. Our system is optimized to run on URLs, or DOIs,

which aren't available in traditional ILL systems. The root issue here is poor repository metadata, which isn't possible for us to fix. However, we are making significant improvements through checking results for full text before they're presented and training our system against similar datasets.

Cost savings

The key assumptions behind cost-savings figures are that Open Access copies could be delivered to patrons instantly, and that an insignificant number would continue to desire an ILL. We also didn't calculate the value of staff time saved through automatic catalog checks, self-archived Open Access checks or increases in OA by making requests to authors.

Our analysis suggests that York could save over 2% on ILLs by utilizing the Open Access Button. These cost savings are calculated only by considering the direct costs saved by delivering an self-archived Open Access copy instantly, which is a relatively limited analysis. In this case, we were unable to calculate the cost savings from delivering paid-for content instantly without staff intervention. However it can be expected this figure would rise significantly.