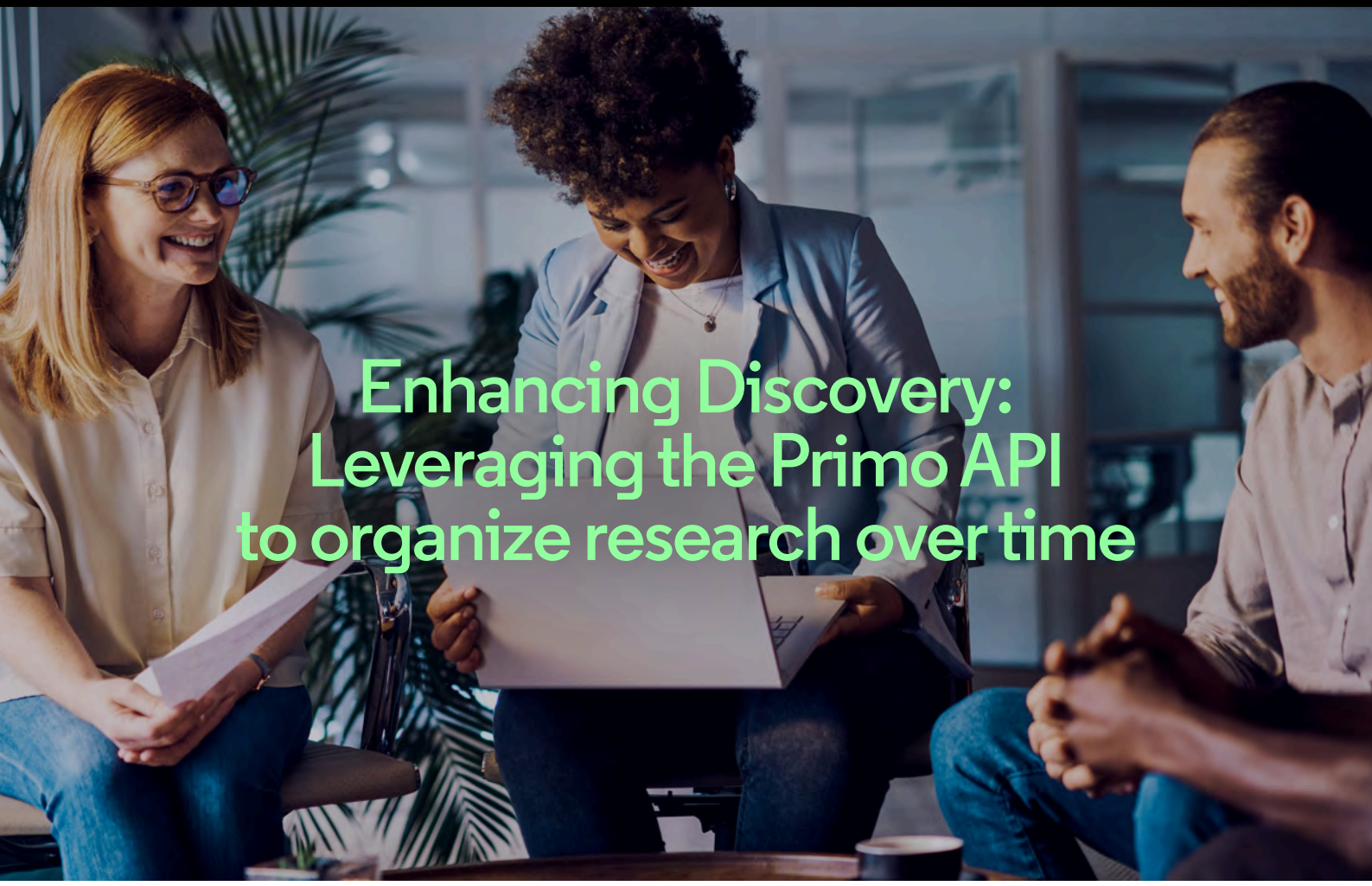


Enhancing Discovery: Leveraging the Primo API to organize research over time

With its open API, Primo lends itself to customization and integration with other library systems.

At the University of Regina, researchers asked a more fundamental question: Could they use APIs to design and study search interfaces that enable better experiences for users doing extensive, ongoing research? Their findings proved to be a resounding “yes”.

“When I learned that there was an API available for our university's library, I thought, ‘Fantastic! This gives my research team the ability to create experimental search interfaces using real data.’”

Dr. Orland Hoeber

Clarivate | Ex Libris

Identifying the need: when simple search is just not enough

Our story starts with a chance encounter. Orland Hoeber is a professor and head of the Department of Computer Science at the University of Regina, while Dale Storie is the Associate Dean (Research) at the U of R's Dr. John Archer Library & Archives. While on a university excursion, they discovered they had a shared interest in improving the search experience. "I have a background in computer science, human-computer interaction and information visualization," states Hoeber. "Dale's background is more in library science and the human behavior of searching."

The two started to meet and consider the challenges that students and researchers face when searching university resources to support their academic goals. "Maybe there's some ambiguity in what they're searching for, and so the searches can pull them in multiple different directions," Hoeber explains.

That's different from simple lookup-style searching where the searcher can guess at some of the terms in an article; there's a clear end with that type of searching," he continues "With complex search, we're learning about a topic that we might not know a lot about. The searches can go on and on; it's difficult to keep track of what we have found and to know when we're done."

"For the Library, it's supporting research in a way that we don't typically support research, and that's been a great thing for us."

Dale Storie

Opening new opportunities with the Primo API

Flexible and versatile, the Primo API enables institutions to create new ways of interacting, enabling and building unique connections with their users both inside and outside of Primo. Limited only by their imaginations, libraries are leveraging the APIs to create new ways to visualize collections and display search results:

Highly **customize the look and feel** and add new help or navigation elements to the interface

Embed library search within other library or university pages

Offer subject-specific searches or build custom portals for accessing specific types of resources

Export search results to other applications for building reading lists or populating spreadsheets.

Real-world problem, solved with real-world data

According to Storie, some of the University of Regina's Library users had already identified the shortcomings of simple search. "Students in the upper years and graduate students," he shares, "are doing more in-depth research and revisiting topics over time. We didn't have the resources within the library to work on custom interface development and create something to meet those needs. I knew Primo had a great suite of APIs that we wanted to take advantage of, and that's where Orland's work came in."

Hoeber, from first-hand experience, knew that Primo API also filled a void in his own research efforts.

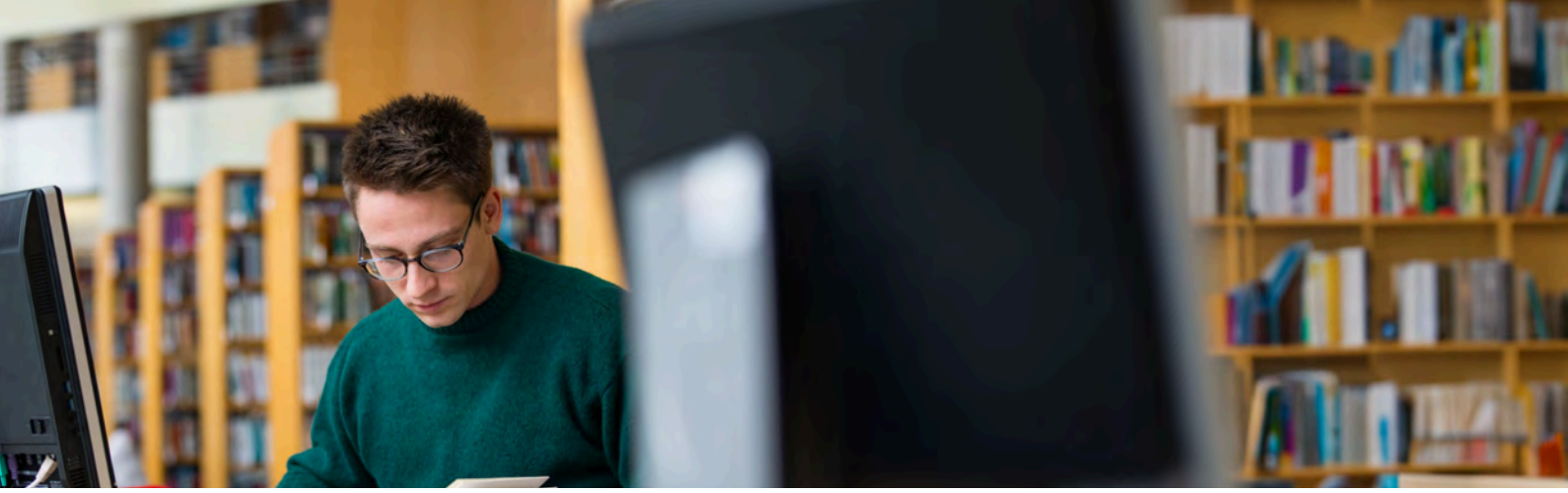
In past projects, he had built search interfaces for specific data sets, but "when we use limited data and create artificial scenarios, the ability to generalize our findings beyond that limited environment is constrained," he explains.

"When I learned that there was an API available for our university's library, I thought, 'Fantastic! This gives my research team the ability to create experimental search interfaces using real data,"' Hober continues. "If we can have access to real library systems with real library data, running real searches with real people doing the searching, it brings strong validity to our findings." Benefitting from access to over 5.2 billion records in the Central Discovery Index (CDI) powering Primo, this is a realistic scenario.

Dilex Search – a new solution built on the Primo API

Hoeber looked to his research group and graduate students for ideas on how to enable and support more complex search tasks. One of his graduate students Sebastian Gomes, had experienced his own set of difficulties as a master's student, and Hoeber brought his own experiences as a faculty member doing academic searching. Based on those use cases, they developed Dilex Search – a new solution built upon the Primo APIs.

Dilex Search supports cross-session searching where all previous searches are preserved and organized by search task, allowing the researcher to review



past search sessions, queries, and saved documents, and pick up and continue prior searches from where they were left off. It also supports cross-device searches - from a desktop, laptop or a mobile device via a streamlined interface - for conducting and continuing complex academic searches wherever and whenever time allows. Instead of waiting for their innovative work to be integrated into library search interfaces, Hoeber and Gomes started a company to fast-track moving research out of the academic realm and into the hands of actual users. Dilex Search is now available as a software-as-a-service addition to existing Ex Libris ecosystems.

Designed for advanced searches to work seamlessly

Hoeber describes the benefit of Dilex Search from the researcher perspective, "When researchers stop a search and resume it at a later date, there's a lot of reacquainting with what they did previously. Dilex Search allows you to quickly get back into the search. You see what you found and the queries that were successful, so you avoid the ones that weren't successful and build on the ones that were. We group the searches together in tasks and use clever interface design and visualization to show the timeline of the most recent search activities. That leverages people's innate ability to reference temporal landmarks. It's so much easier to remember if you have the context of whether it was done a week or a month ago – an important time saver for researchers."

Adds Storie, "When you engage a researcher, it's about experimentation, generating new knowledge, and testing new ideas. It's delightful being part of this. For the Library, it's supporting research in a way that we don't typically support research, and that's been a great thing for us. "The efforts that Hoeber and Gomes have put into commercializing their research mean that all students, researchers, and faculty at the University of Regina can now use and experience the benefits of Dilex Search.

Expanding research with the Primo API

Hoeber describes work that his current graduate students are doing using the Primo and Polaris APIs. "I have five students who are building search interfaces. One involves a timeline that provides more contextual information than is available in Dilex Search. Another interface is looking at support and enabling serendipity: finding if a reference that is not relevant to the current search, but is relevant to other work being undertaken; the interface would include a method of capturing the resource or exploring it without abandoning the search you were doing in the first place, for example" he shares.

"I also have a doctoral student who is working on a project to integrate search results from multiple sources by issuing the queries across multiple APIs and aggregating the search results in a way that makes sense, and another who has recently built an approach for interactively tagging and filtering search results to support exploration. Another master's student is exploring the use of Generative AI to summarize and visualize search results in a workspace to support the planning aspect of pursuing a complex search. The possibilities are endless."

Solid documentation supporting short development windows

"Our students are stepping in and facing a tight timeline to come up with a unique idea and implement it," states Hoeber. "The development windows are around six months, and access to APIs with good documentation means that a student can start without having to access technical resources. With the Dilex Search project, we only reached out to Ex Libris once when something weird was happening, I think during an upgrade cycle. Other than that, we've been able to do everything in-house because of good, robust APIs and documentation, so thanks to Ex Libris for that."

About University of Regina

University of Regina

The University of Regina, located in Saskatchewan, Canada, offers world-class, post-secondary education to more than 16,700 students.

With roots that go back more than a century as Regina College, the U of R is a comprehensive university with a wide range of undergraduate and graduate programs, a strong focus on co-op education and experiential learning, and over 90000 alumni worldwide.

About Dilex Search

Dilex Search provides an enhanced search interface to enable cross-session and cross-device searching within Ex Libris product ecosystems.

Utilizing the Primo API, this search interface extends the base Primo discovery interface to support searchers in the pursuit of complex search scenarios that may extend over days, months, or even years. The company was founded to transition academic research on interactive information retrieval into product development and deployment.

More Information can be found on http://www.dilexsearch.com/

About Clarivate | Ex Libris

Ex Libris, part of Clarivate, is a leading global provider of cloud-based solutions that enable institutions and their users to create, manage, and share knowledge. In close collaboration with its customers and the broader community, Ex Libris develops solutions that increase library productivity, maximize the impact of research activities, enhance teaching and learning, and drive student mobile engagement. Ex Libris serves over 7,500 customers in 90 countries. For more information, see our website and join us on LinkedIn, YouTube, Facebook, and Twitter.

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