Making the Most of Discovery— Primo Today and in the Future

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Agenda

- ► The basics of discovery: a reminder
- Primo in action
- Next to come
 - Search and exploration
 - ► The treasure trove: data and technological expertise
 - User experience
 - Reading lists



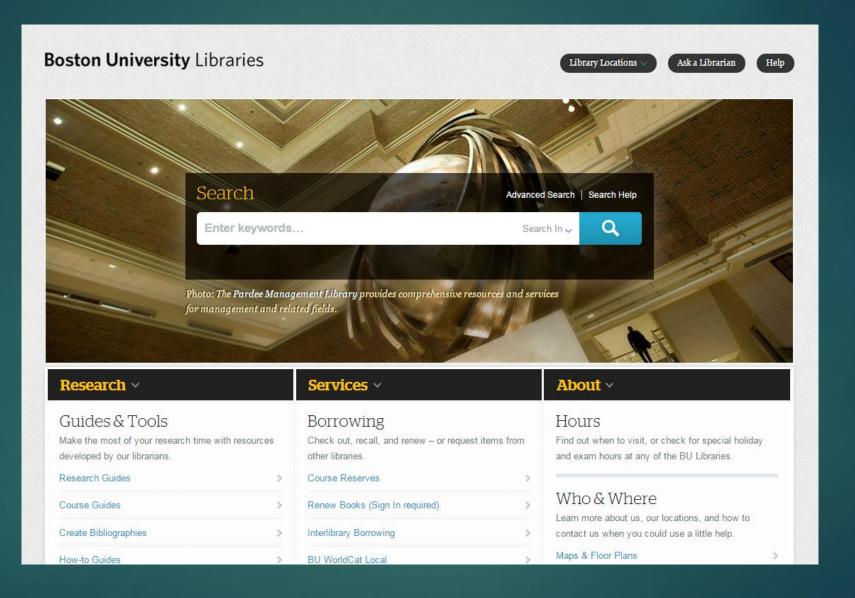
The basics of discovery

Why discovery systems?

- One interface—everything the library deems relevant in one place
- User experience—branded and consistent; a platform for offering relevant services
- **Content**—structured, comprehensive, multidisciplinary, and relevant
- Full-text access—clear and with no frustration
- Search—pre- and post-search options that help users focus
- Recommendations—leading to relevant items, regardless of the query
- Analytics—supporting decision making



Primo in action



Boston University Goal

Make the library Website become the virtual manifestation of the library with Search and Website forming a unified whole.

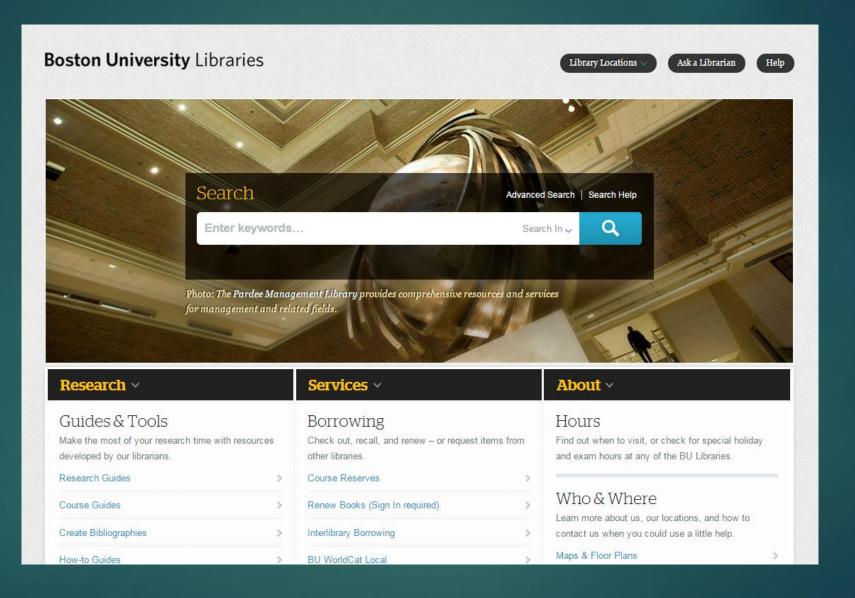


Key principles

- Focus on the local characteristics
- Modern design and simplicity
- All library collections available through a single interface
- The Primo-driven website becomes the library's primary service platform*
 - No distinctions between the website and the library collections
 - Search integrated into every library page
 - Library site included in the search scope
 - Additional services integrated in context
 - Dynamic pages created based on Primo searches
- Develop services using 'Uber' principles
- Make use of the full Primo capabilities

* BU are using the Wordpress enterprise-level content management system





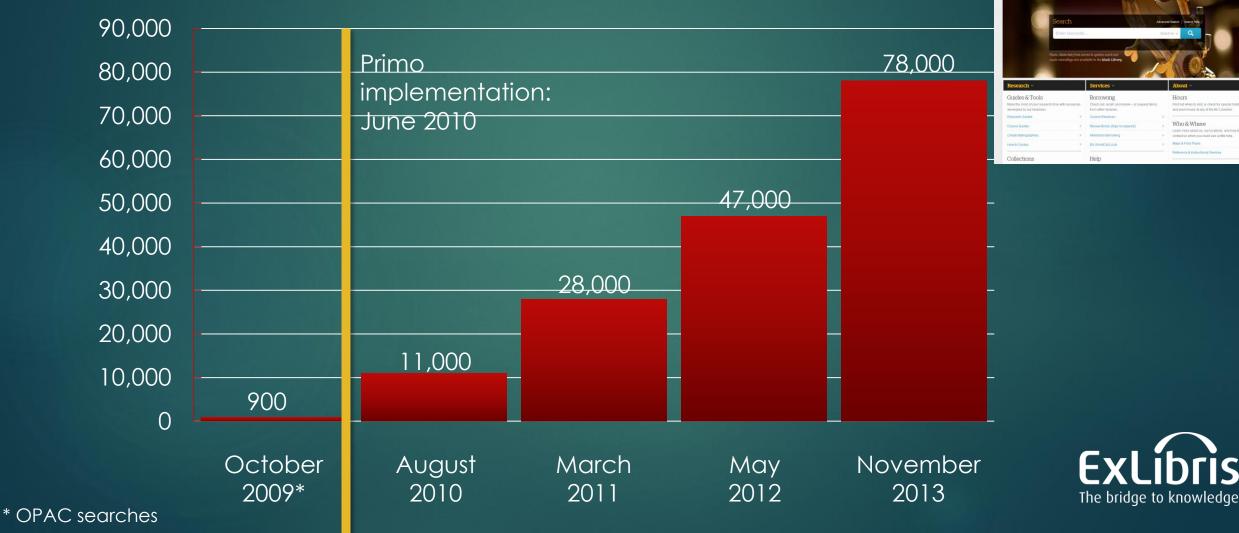
Other examples of innovative Primo sites

- ETH Zurich: <u>http://www.library.ethz.ch/en/</u>
- Harvard University Library: <u>http://library.harvard.edu/</u>
- National University of Ireland: <u>http://www.library.nuigalway.ie/</u>
- Mountain West Digital Library: <u>http://www.mwdl.org/</u>
- Emory University <u>http://web.library.emory.edu/</u>
- The British Library: <u>http://www.bl.uk/</u>
- Aalborg University: <u>http://www.en.aub.aau.dk/</u>
- Tulane University: <u>http://library.tulane.edu/</u>
- The Royal Library (Denmark): <u>http://rex.kb.dk/</u>
- Northeastern University: <u>http://library.northeastern.edu</u>



The proof of the pudding is in the eating

Number of Primo Searches per Day Boston University, MA, USA



v Locations Ask a Librarian

Insights – 27(3), November 2014 The effect of discovery systems on online journal usage | Michael Levine-Clark et al

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Up



Many academic libraries are implementing discovery services as a way of giving their users a single comprehensive search option for all library resources. These tools are designed to change the research experience, yet very few studies have investigated the impact of discovery service implementation. This study examines one aspect of that impact by asking whether usage of publisher-hosted journal content changes after implementation of a discovery tool. Libraries that have begun using the four major discovery services have seen an increase in usage of this content, suggesting that for this particular type of material, discovery services have a positive impact on use. Though all discovery services significantly increased usage relative to a no discovery service control group, some had a greater impact than others, and there was extensive variation in usage change among libraries using the same service. Future phases of this study will look at other types of content.



Some comments following the implementation of Hollis+ at Harvard



I just wanted to say, on behalf of graduate students across the Harvard campus, THANK YOU for Hollis+!!!! and the same enthusiastic thank you for the retrieval ("request item") service (plus "map it"). We really, really appreciate these services.



HOLLIS+ Is The Best

I thank you, and praise you, O you Hollis+ of my library, who have given me wisdom and access, and have made known to me now what we desired of you: for you have now made known to us the knowledge of the ages.

Thank you, Harvard library, for enabling database searches in Chinese and Japanese characters in Hollis +. It makes a huge difference in my research.



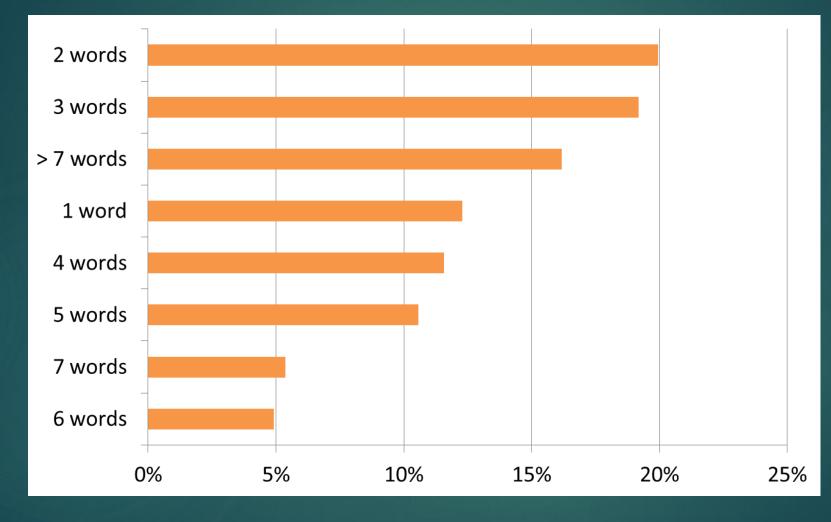
Next to come

This is what we know*

- More than 50% of searches are for known-items
- Learning is part of information searching; e.g., building terminology
- Following trails is hugely important
- No one strategy or technique fits all
 - Academic degree, expertise, discipline, specific task at hand—all matter
- Most materials used by undergraduates are listed in course readings



Number of words in users' queries



Based on Primo Central search logs analysis

From search to discovery

- The base: optimal support of known-item searching
- Additionally
 - Browsing: finding through recognition rather than specification
 - Serendipitous discovery
- Next layer: building exploration trails to follow
 - References and citations
 - Implicit recommendations based on real-life selection patterns
 - Topics
 - Authors, institutions, and departments



Known-item search

Support various types of queries, e.g.,

sing song girls of shanghai Chemical Process Design and Integration Simultaneous two-photon imaging of oxygen and blood flow in deep cerebral vessels Tedeschi, bruni, Those Who Love Me Can Take the Train gibson ars amatoria 3 2009 R. K. Gibson, Ovid: Ars Amatoria, Book 3 (Cambridge Classical Texts and Commentaries 40). Cambridge: Cambridge University Press, 2003. Pp. x + 446. ISBN 0-521-81370-0. Biologic behavior and prognostic factors for mast cell tumors of the canine muzzle 24 cases (1990 2001).

- Support query variations, e.g.,
 - Typos or spelling mistakes
 - Missing or redundant words

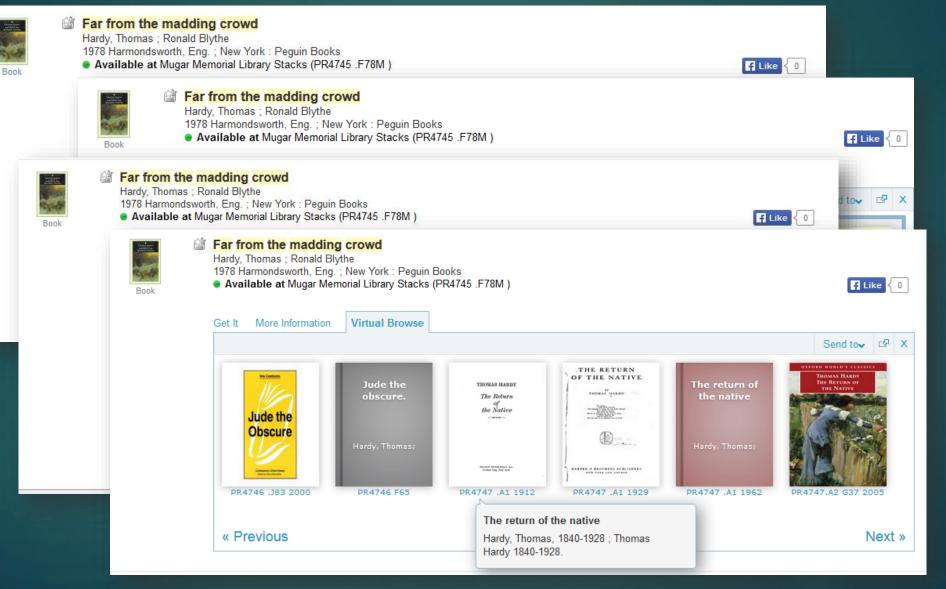


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Virtual shelf



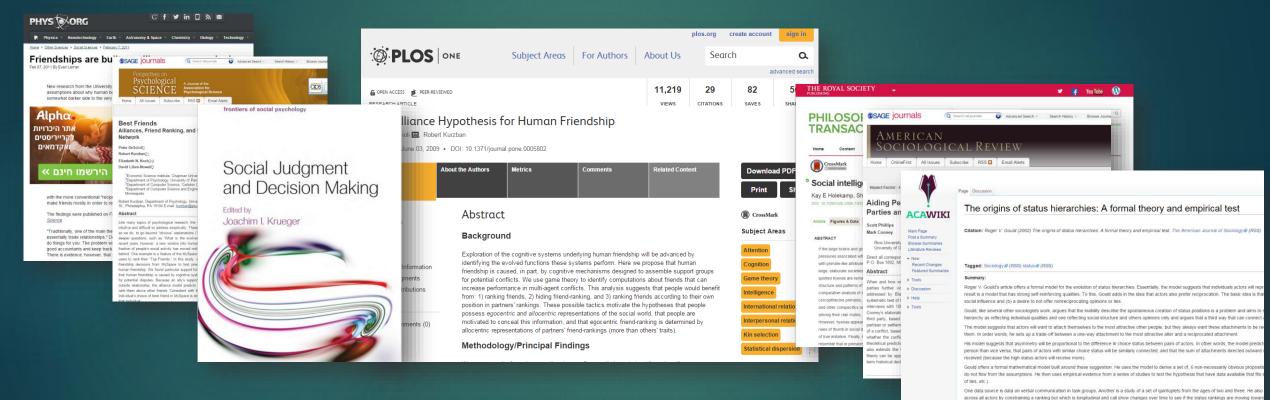


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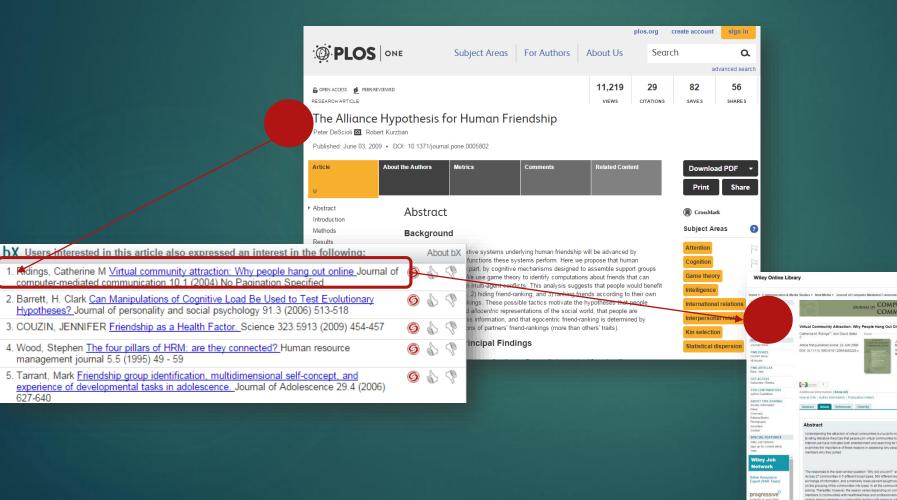
Exploration trails: references and citations



EXLIDIS The bridge to knowledge

All six propositions seem to be supported by the empirical evidence

Implicit recommendations based on real-life selection patterns



627-640

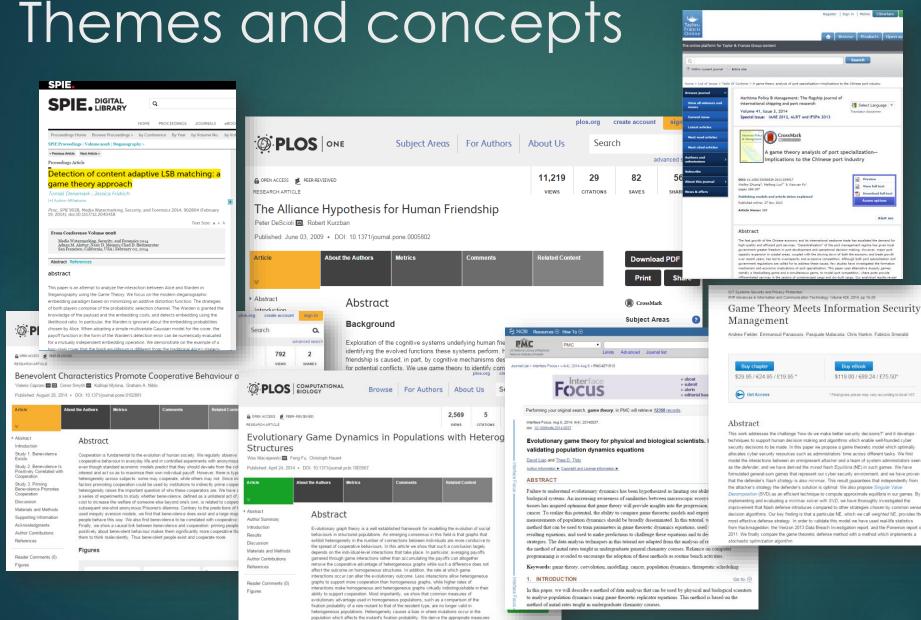


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This work addresses the challenge 'how do we make better security decisions?' and it develop techniques to support human decision making and algorithms which enable well-founded cyber security decisions to be made. In this paper we propose a game theoretic model which optimally allocates cyber security resources such as administrators' time across different tasks. We first model the interactions between an omnipresent attacker and a team of system administrators se as the defender and we have derived the mixed Nash Equilibria (NE) in such games. We have formulated general-sum games that represent our cyber security environment, and we have prover that the defender's Nash strategy is also minimax. This result guarantees that independently from the attacker's strategy the defender's solution is optimal. We also propose Singular Value composition (SVD) as an efficient technique to compute approximate equilibria in our games. B implementing and evaluating a minimax solver with SVD, we have thoroughly investigated the improvement that Nash defense introduces compared to other strategies chosen by common sense decision algorithms. Our key finding is that a particular NE, which we call weighted NE, provides the most effective defense strategy. In order to validate this model we have used real-life statistics from Hackmageddon, the Verizon 2013 Data Breach Investigation report, and the Ponemon report of 2011. We finally compare the game theoretic defense method with a method which implements a



The treasure trove

- One billion items in the Primo Central Index
- Automated text analysis and clustering of items, based on similarities





Clustering based on data mining

Title

Do honey bees average directions in the waggle dance to determine a flight direction?

Description:

Nu00a0 The waggle dance of the honey bee is a recruitment behavior used to communicate the location of a resource to a nest mate. There is, however, significant imprecision communicating the direction across waggle runs in a single dance. In this study, we ask whether honey bee recruits determine the direction of their flight based on an average of many waggle runs, or on a single waggle run. We show that the distribution of recruit flight directions is narrower than the distribution of directions indicated in the dance. We also show that there is a better fit between observed flight directions and the prediction of a multiplewaggle-run-averaging model than a last-waggle-run or other single-waggle-run models. These findings substantially weaken hypotheses about the adaptive nature of imprecision in honey bee recruitment. [PUBLICATION]

Filters Full Text	Top Keywords & Phrases	Grouping	Run Properties
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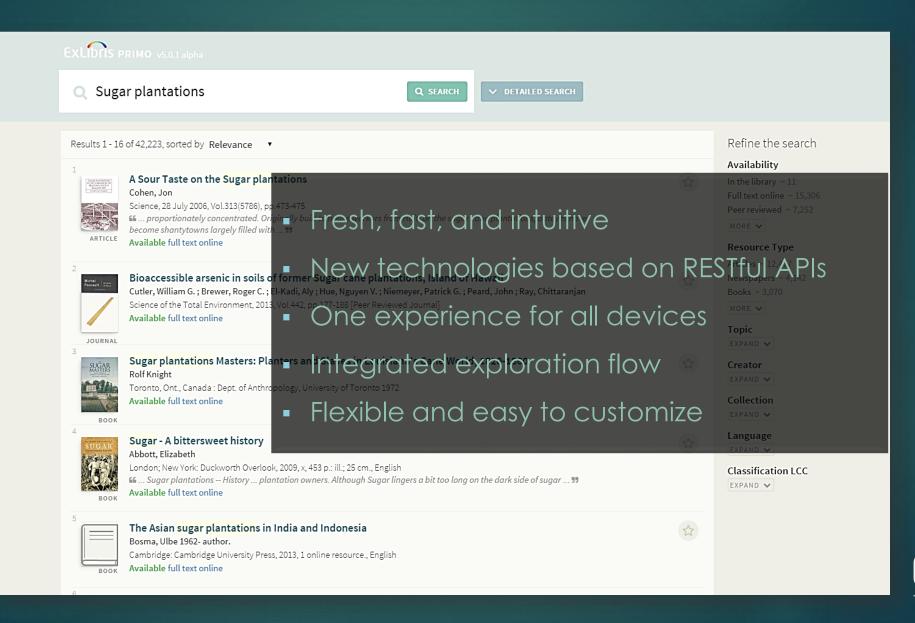




User experience

- Optimal support for
 - Search and navigation
 - Mobile devices
- Personalization, for better matches
 - Without login
 - Enhanced subject fit
 - Recentness parameter
 - Intuitive indications on the screen
 - Material type mix
- Digital discovery, supporting hierarchical structure
- ► And for librarians: Oracle business intelligence (OBI) reports







Expanding the reach of the library

The library is looking for ways in which it can be more involved in teaching and learning

- To better support instructors and students
- ► To ensure the proper use of materials
- To optimally develop the library collections
- ▶ To measure and demonstrate the library's value to the institution

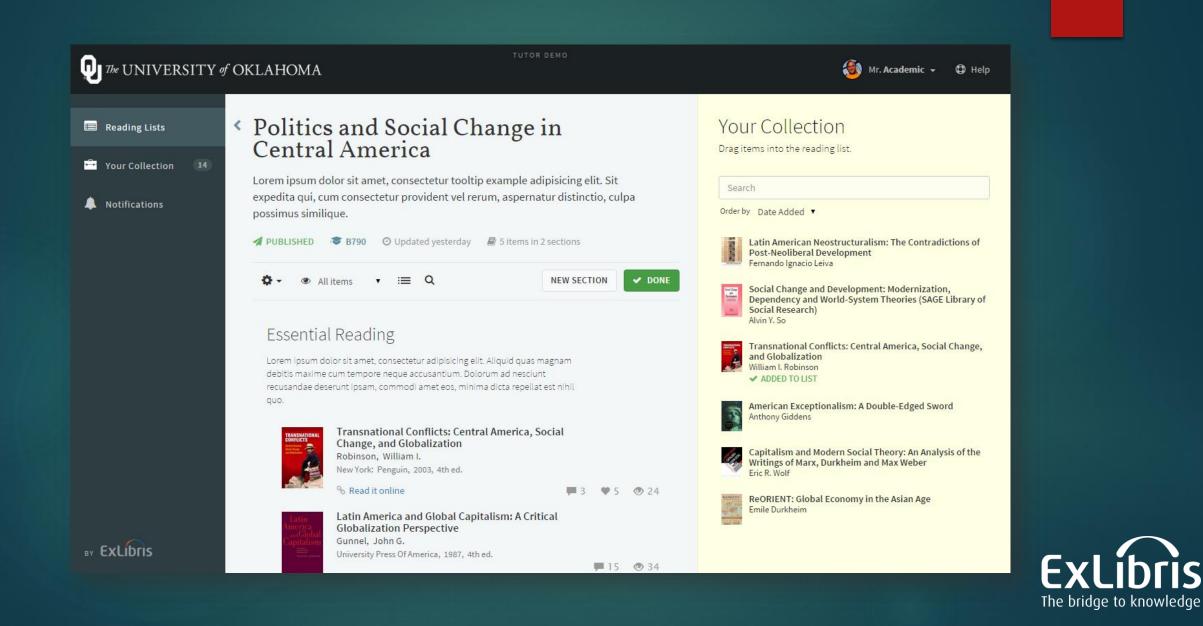


Leganto: Ex Libris reading-list offering

Serves instructors, students, and librarians

- Instructors create, maintain, evaluate, and share reading lists and monitor their use
- Students access materials, share their views, and suggest additional materials
- Librarians make materials available and track their use through the library management service
- Tightly integrates with the course management system and other relevant systems and services and supports cross-system workflows





Summing up: our focus in 2015-2016

Current focus: a higher level of discovery

- Optimal support for known-item searching
- Exploration trails, following relations between items
- Support for serendipitous discovery
- Clustering, based on extensive data and Big Data technologies
- ► User experience
 - How things look and function
 - Support for mobile devices
 - Personalization
 - Digital discovery
- Better integration of the library services in teaching and learning environments



Thank you!

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