

Next Generation Library Systems at Dartmouth College

A report from the Next Generation Library Systems Team

Malcolm Brown: Director of Academic Computing
Peter Collins: Access Services Librarian
William Garrity: Director of Biomedical Libraries
Kevin Reinhart: Professor, Department of Religion
David Seaman: Associate Librarian for Information Management
(Chair)
Scout Sinclair: Computer Science Graduate Student

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VISION

The next generation library systems need to be nimble, personalized, relevant, and convenient. Our library organization needs to fully embody these traits too. The library should compete for attention through ease of use, excellence of content, and functionality of space. Our information services should allow one to discover knowledge rather than to search for information. And they should to be accessible from within whatever online place a user inhabits (iGoogle; Facebook; Blackboard), in whatever language one works in, and on whatever networked device.

NEXT GENERATION REALITIES, NEEDS, AND SERVICES

1) We currently have a **super abundance of resources** accessed through a complex, disjointed discovery layer [*Appendix A*]. Filtering of results and personalization of features are poor or absent. We need to strive for much simpler ways to find much more relevant information.

One search box to rule them all -- federated discovery of all available resources (print, media, electronic resources) from a single point of entry is an overarching need.

Next generation services must **radically enhance resource integration** and move us on from the isolated data silos of the present. Current generation federated search (*Search360*) is a start but not an answer – it is too slow, and the results are neither disambiguated nor ranked. Can we think of a **“middleman server”** to gather up feeds from various information sources and massage them for local delivery?

2) More is not always more. Specificity, selectivity, and convenience are often of much higher value than undifferentiated bulk.

Customized feeds of information are increasingly necessary as the available material grows in number and complexity. We should explore services that harness staff and faculty expertise – “**canned searches**” designed by experts, for example. **iTunes Essentials** (part of iTunes Music Store) is a good example of music genre compilations compiled by experts. The abilities for users to add **reviews, recommendations, and “folksonomic” metadata** would be useful, and these features are commonplace in commercial services such as Amazon or Flickr.

3) Convenience rules in a world of growing resources and no more time, and we ignore this at our peril. Most users most of the time take the path of least resistance. We make our users work too hard.

Embed services where the users are: finding systems need to be accessible through widgets that a user can add to a portal and through application programming interfaces (APIs) that allow programmers to bypass an interface and address services directly; we reach directly into Amazon via an API now, for example, for book jacket images that appear embedded in the catalog record. Forcing users always to go to “destination” web pages – to leave the catalog to go to BorrowDirect – is frustrating. OCLC already offers a Facebook application to access WorldCat directly from one’s Facebook homepage.

4) Access, not ownership, is what our users care about. We need to be sure we have broken from the “curatorial thinking” of the pre-internet library.

Discovery services need to foreground availability – they should answer the basic questions “**when can I get it?**” and “**what can I do with it?**” This may favor a “World Cat Local” approach over the current library catalog, which highlights that which we own or to which we subscribe.

5) Privacy is not paramount – users will trust the library to make good use of what we can know about a user or a user group, if it allows for richer, more personalized services or more relevant filtering of results.

Personalization is not threatening as long as it is optional and under the user's control. Services that use knowledge of one's prior activity and/or one's membership in a group are of increasing value. Such "**recommender**" services are commonplace in commercial services such as Amazon.

6) Serendipity is important. How can we translate the happy accidents of discovery familiar from scanning spines on a bookshelf to the online library? How can serendipity be extended to journal article browsing?

Goodreads and **LibraryThing** are examples of one type of a social networking service that could have an academic version. **Zoomii Books** is another type of virtual bookshelf visualization that lets one scan hundreds of book jackets quickly.

7) Library systems should support Access, Discovery, Selection, and Filtering.

Current systems focus on the first two at the expense of the second two. We need much better selection and filtering services to help us limit the vast result sets that result from the current generation access tools.

8) Discover/gather/create/share: these so-called "scholarly primitive behaviors" [Appendix B] may be a good framework within which to think about library services.

Which primitives do we serve and enable? Next generation systems should extend our service reach beyond "discover."

9) Service design and assessment processes need to be quick, agile, ongoing, and iterative. Next generation systems must be **defined by users** and not librarians, which means we must be more sophisticated in uncovering what users need and what they do.

Open up beta testing of new features in systems to interested users. Make it clear that they are trying beta releases. Google does this routinely with Google Labs. We need to be braver about letting users opt to try new features while we are evaluating them, even when they have rough edges – some form of a "click here to learn more and try" feature?

10) The physical space of the library is vital and valued, as a repository, a study space, and a social place. Yet it can be foreign and foreboding. Can we think of next generation services that make navigating the physical library easier, especially when locating printed books and journals?

Computer maps of the physical space that can be tagged with notes from users (like Google Maps)? "Where Am I?" (GPS-like) services for wireless devices. "Take Me To My Book" interactive mapping services. "What is here?" features moved to the network.

NEXT STEPS: HOW TO TEST OUR ASSUMPTIONS?

These recommendations come from a small and heterogeneous group of experts meeting for a short space of time (a committee approach that has worked extremely well). Next steps should be to test these assumptions by observing what users actually do when they use our systems. We could look to faculty members, staff, students, and K12 students as subject populations. We can pay much more attention to user behaviors that can be observed from the web logs too.

One strategy could be to construct local versions of the user personae that Cornell and others employ – fictional users representing a group of our constituents who distill that group's information-seeking habits in a single composite user. Services can be tested against these personae in addition to testing them against real users by asking "what would Persona X think about this?" Persona-user testing can be done faster and more frequently than real-user testing. We should check to see what Cornell's experience with this approach has been.

NEXT STEPS: WHAT FEATURES RECOMMENDED HERE COULD WE TRY NOW?

Q: Can we try some other examples of nimble, agile, and swift implementations along the lines of *Lib Guides* to help raise our comfort level with this way of operating?

Q: Can we look for short-term ways to index the resources of Dartmouth College that are now hard to find, including course materials and faculty/expert profiles?

Q: Can we integrate BorrowDirect and DartDoc into the catalog search as a single list that would show, for example, Dartmouth's copy

checked out but Cornell's available. And can we solve the attendant identity management issues – at present one has to fill in a password multiple times.

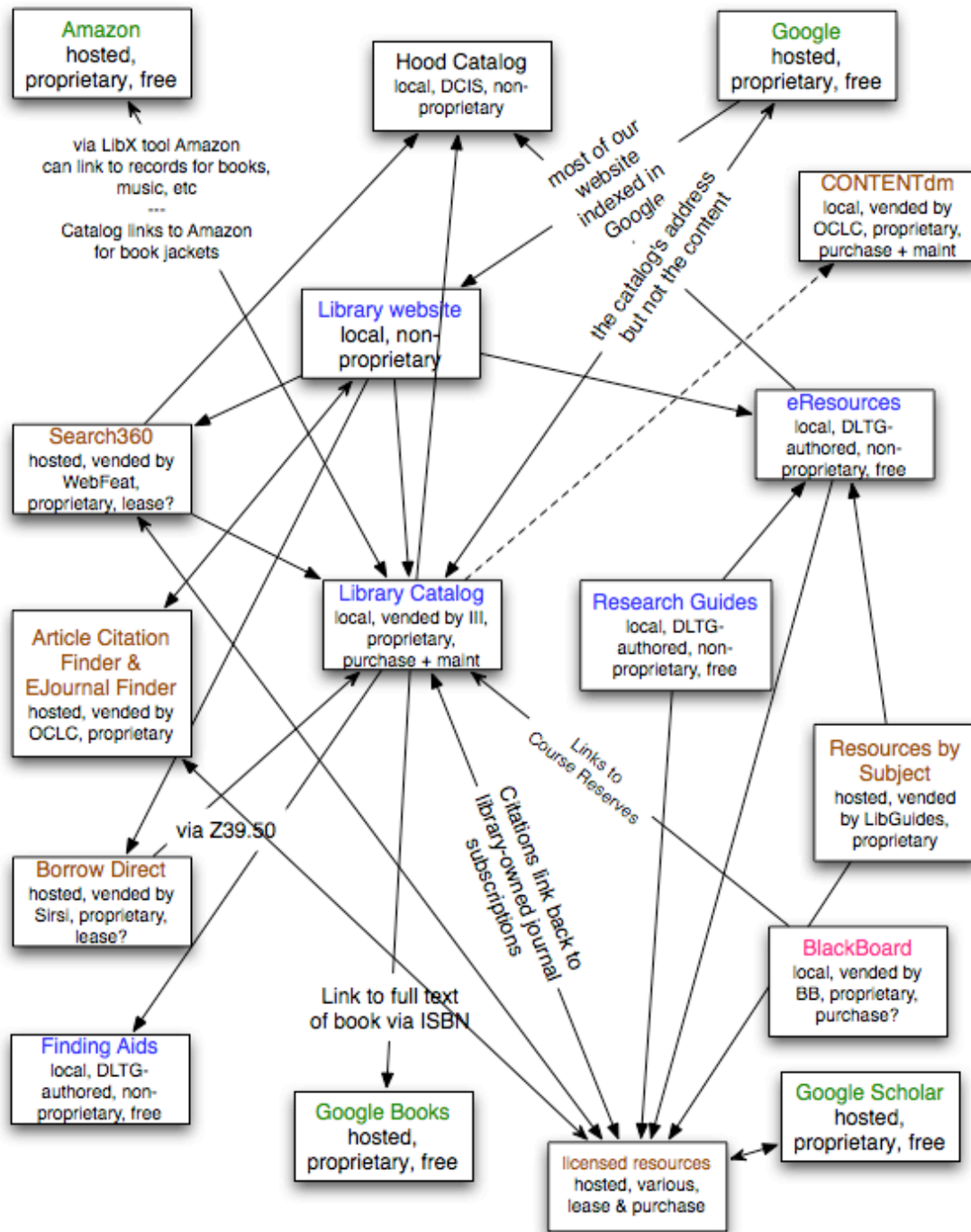
Q: Can we have Unicode support across all our systems?

Q: Can we link from a catalog record for a print journal to its online version? A small thing, but powerful.

Q: We have subject liaisons but could we have library technology liaisons? Could we choose a person in the library who could – say – be the go-to person for information on APIs – both for vendor negotiations and for technically savvy users who would like to experiment. Or for metadata? Or XML? Can we expose our expertise in these areas as a benefit to the College community?

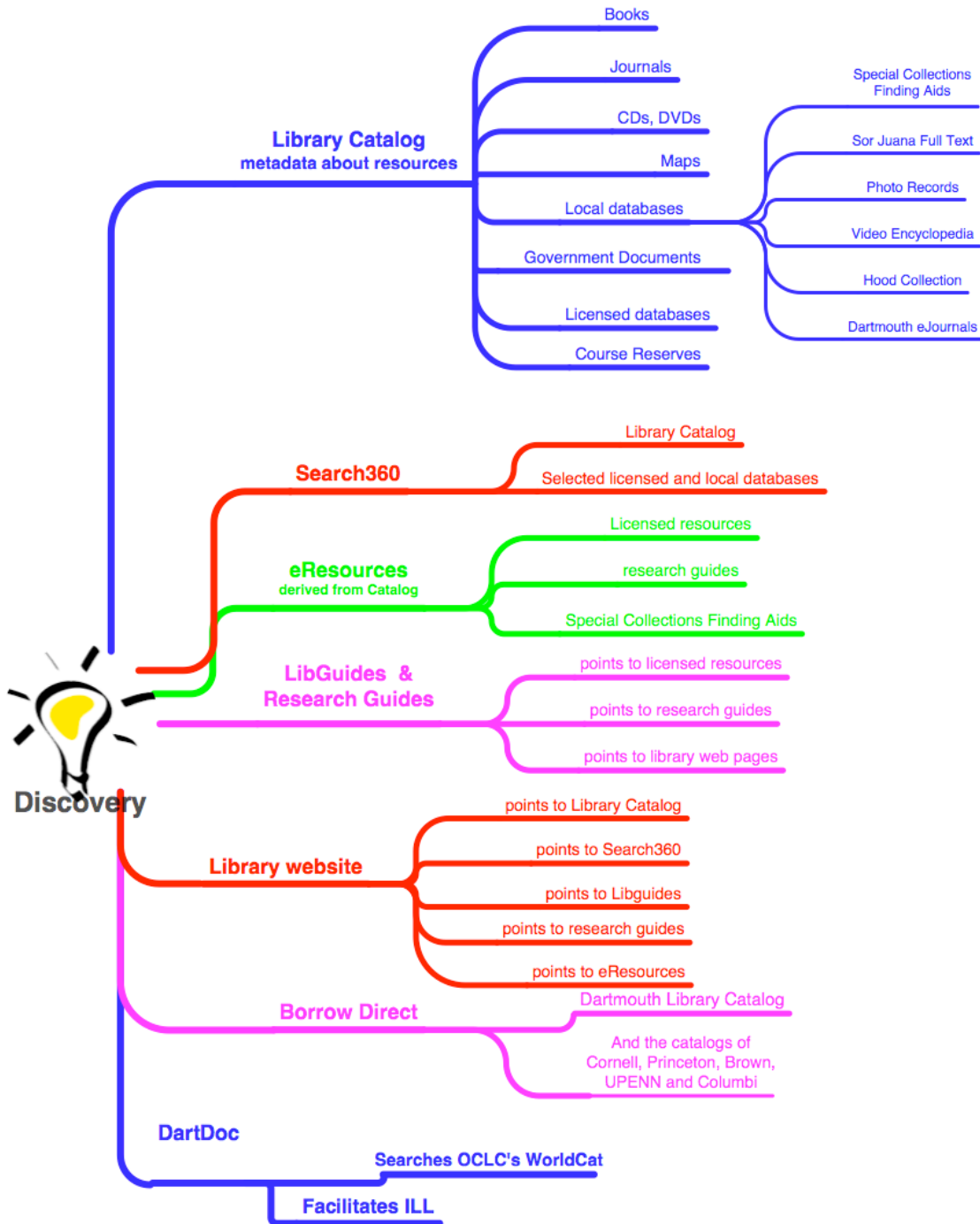
Q: Can we design services and interfaces so that formal training is unnecessary? Can we move to online demos and "Take A Tour" features common in commercial services -- training not rooted in time but online and continuous. No one takes classes to learn Amazon, Ebay, Google, Facebook, or LibraryThing.

Appendix A: Schematics of the Current Library Discovery Systems



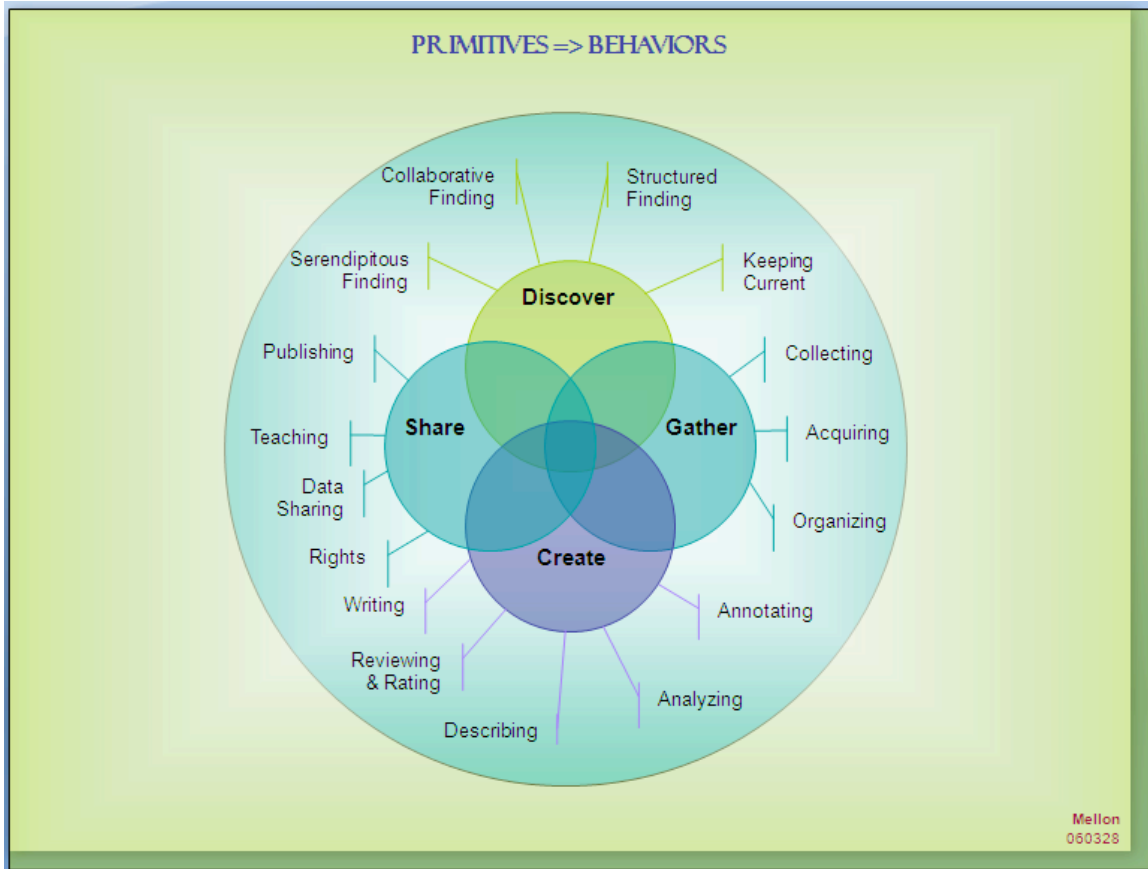
Library Resource Diagram (3)

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Library Resource Diagram (1)

Appendix B Scholarly Primitive Behaviors and Service Needs



From the University of Minnesota Library
<http://www.lib.umn.edu/about/mellon/index.phtml>