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LibraryFind ™ : The Development of a Shared Library Platform at Oregon State University Libraries

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The digitization of academic resources has been a boon for library patrons, providing library users with access to resources not available in earlier years. However, the advent of Internet discovery tools like Google and Yahoo have led users to expect simple yet richly interactive systems that transparently facilitate access to information. And it has been the library community's challenge to develop systems and strategies for meeting changing user needs. This has meant a closer look at our own culture and a need to rebuild ourselves as more nimble organizations with the ability to quickly shift directions and develop more transitive services. While many libraries continue to talk about the need to become more like Web 2.0 organizations, few have actually started to move in that direction.

However, before moving forward, we should really step back and define some of the vocabulary that will frame the conversation—specifically how Web 2.0 and metasearch are being defined. Many of the discussions around Web 2.0 center around technology and functionality, which are an outward manifestation of the Web 2.0 philosophy. The focus on this aspect often leads to confusion as dialogue about Web 2.0 bogs down in debating feature sets rather than the guiding principles of the Web 2.0 movement. Like many communities, libraries have become enamored with much of the functionality that has come out of the Web 2.0 movement (tagging, faceting), but have failed to fully understand the movement's foundational principles. As Tim O'Reilly writes in his article, "What is Web 2.0," the driving force behind the Web 2.0 concept is one of no boundaries. When the Web is envisioned as the development platform, traditional rules and boundaries simply no longer apply. Out of that vision comes new rules and philosophies related to

how software and services should be developed. For example, O'Reilly argues for the idea of "perpetual beta," treating users as co-developers in the development process. If O'Reilly is right, and Web 2.0 philosophically represents this world where boundaries do not exist, then for librarians the hallmark of a Web 2.0 system cannot simply be a user interface improvement. Rather, librarians need to look beyond a system's surface improvements to evaluate the system's ability to cross boundaries and provide opportunities for interoperability.

Web 2.0 systems create new access points to encourage users to exploit and create tools from available data. The Web 2.0 philosophy of data interoperability reflects one of the library community's traditional core values. When the Oregon State University (OSU) Libraries first started developing the LibraryFind™ application, developers focused on how the application would encourage and promote greater interoperability with the Libraries' information resources. While LibraryFind's™ user interface (UI) reflects many of the technologies associated with Web 2.0 the aim of the LibraryFind™ was to embrace the Web 2.0 philosophical mantra and build a tool that could function as a component of a larger unified library platform.

In addition to Web 2.0, the concept of metasearch is a term that is often misunderstood or used interchangeably with federated search. For the purpose of this dialogue, federated search will be used to describe a search done over many different resources, where the query runs on numerous remote servers before results are aggregated and returned to the initiator of the search. Metasearch, on the other hand, will be defined as a search that is able to query and aggregate content from local and remote indexes. Metasearch's abil-

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ity to aggregate content comes much closer to the classic Web search engine model, where a single index is utilized to query a large cache of information. While federated search tools have no such central index and must rely solely on their ability to retrieve data from a wide variety of sources, metasearch utilizes an approach that combines both harvested and remote collections together. The distinction is an important one due to the inherent limitations present in federated searching. Since federated search queries multiple remote servers, a certain amount of built-in latency will always be present as the search tool communicates with its various remote servers. Metasearch applications, however, attempt to strike a balance between locally harvesting and indexing content (when possible), while still providing support for federated searching of resources that do not support local harvesting and indexing. Within the library community, the most notable resources that do not support local harvesting and indexing, are electronic journals and abstracts.

In 2006, the OSU Libraries decided to take a more active role in the development of its information infrastructure. Unsatisfied with the current crop of "next generation" systems available to the library community, the OSU Libraries opted to re-think what it meant to develop library services as part of a single unified library platform, and set out to develop that vision. This move certainly was not without risk, as the OSU Libraries moved away from a vendor-supported model to one in which the Libraries would be primarily responsible for both ongoing support and development of their retrieval platform.

The first of the components to be developed as part of this initiative was LibraryFind™. LibraryFind™ is an open source metasearch application that was developed to be used as the primary access point for aggregating the library's fragmented in-

formation landscape. This enabled OSU Libraries to, for the first time, offer a single set of Application Programming Interfaces (API) to departments and patrons looking to develop connections to library resources. Also, LibraryFind™ provides the Libraries' developers with a unified API for building other patron services. This development has allowed the OSU Libraries to take a more active role in defining and developing our own search infrastructure, as well as develop a product that could potentially benefit the greater library community as a whole. While a discussion of LibraryFind's™ current functionality or roadmap for development is out of scope for this particular article, information about the application can be found at the LibraryFind™ project Web page: www.libraryfind.org. The remainder of this piece will take a closer look at why OSU Libraries developed LibraryFind™ and its positive outcomes.

So why create LibraryFind™ in the first place? When I get asked this question, I'm often surprised to find that many people assume that the primary motivation for creating LibraryFind™ was money. I can understand this line of thinking. On average, a federated search solution to meet the needs of OSU Libraries would run approximately $20,000 to $40,000+ depending on the vendor and functionality purchased. While LibraryFind™ has reduced our total cost of ownership for a metasearch application, the actual costs or potential cost savings played a very small role in the decision to develop the LibraryFind™ application.

In 2005, the OSU Libraries were using a vendor-supported federated search tool. Yet as the Libraries became more interested in developing custom services for our varied audiences, it became clear that this federated search solution simply did not meet the current or future needs of the organization. While the Libraries could have looked

for a new vendor solution, Administration saw an opportunity to reinvent the library, adopting a much more fluid environment that would encourage the rapid development of new and improved library services. LibraryFind™ served as the test-bed for this model of service development. The responsibility for creating the application was shared between Emerging Technology and Library Services, Reference Services (who oversaw and provided formal usability testing) and Digital Access Services (formally known as Technical Services).

So how has the development of LibraryFind™ changed the OSU Libraries? There have been two fundamental changes that have grown out this experience. First and foremost has been the creation of a library-wide platform. For the first time, the Libraries have a discovery platform to use as a building block for other library services. In the two years since LibraryFind™ has gone live, the Libraries have been able to utilize LibraryFind™ to expose the Libraries' resources through other projects, like Oregon Explorer (www.oregonexplorer.info), a statewide natural resources portal and Library à la Carte (alacarte.library.oregonstate.edu), a tool designed to enable rapid development of course and subject guide pages. As a platform component, LibraryFind™ acts as a conduit for information, bridging the gap that had existed between externally developed applications and their users. Additionally, the application itself has been well-received and continues to be well-utilized by the OSU user community.

In addition to LibraryFind™, the process used to develop the application has changed the way that the OSU Libraries view the creation of user services. Like many organizations, the OSU Libraries suffered from a paralysis of perfection, an idea that services needed to be perfect before they could be presented to the user. The Library-Find™ application was the first to utilize a "perpetual beta" model. New features would be continuously released and evaluated. Services that found an audience were developed further and retained; those that did not were removed from the application. For the Libraries, this represented a big change from past projects which generally included a work plan with a definable ending point. LibraryFind™ on the other hand, continues to advance as the LibraryFind™ team assesses how user needs evolve.

Another change emerged in how the Libraries evaluate the success and failure of new projects. As tenured faculty, our success for promotion and tenure is tied to project success. However, the Libraries have had to recognize that there is value in creating projects that never succeed because they provide valuable feedback for the next attempt.

LibraryFind™ is an ongoing research experiment at the OSU Libraries. The program and its development continues to allow the Libraries to test concepts, push boundaries, and share library data with the campus and its extended user community. What's more, the application has served to further the research mission of the Libraries by significantly contributing to the metasearch community and providing a valuable resource for other libraries interested in developing their own search infrastructure. Finally, LibraryFind™ has fostered an environment where librarians are more comfortable with research and development and are actively identifying applications which further the Libraries mission to provide users with the tools they need for teaching and research endeavors.

References

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