

Satellite Meeting - Reference and Information Services &  
Information Technology Sections:

*Innovation and the User Experience: Evaluating and Implementing Discovery Systems*

**Bridging the (Unit) Divide: Applying User Experience to a Discovery Layer**

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**Abstract:**

*Implementation of a discovery layer at the Michigan State University Libraries has been an experience in bridging a cultural divide between Public Services, Web Services, and Systems units. Without a comprehensive plan, the User Experience unit took the lead to support a user-centric culture and build trust while influencing design decisions for the successful launch of SearchPlus, our branded Summon 2.0 discovery layer. As a result, conversations between these units have become more engaged and productive. User experience activities continue to influence customization of SearchPlus to meet patrons' needs, including a current campaign to launch a "bento box" for search results.*

**Keywords:** Discovery, Usability, User Experience, UX.

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The introduction of the Michigan State University Libraries' (MSUL) discovery layer (branded as SearchPlus) is a story of bridging more than just patrons and information. This story involves bridging units within our library system and the serendipitous timing of our leap into user experience. We would like to share our experience in order to promote the formation and/ or utilization of a separate User Experience (UX) unit or work group within libraries. We feel a dedicated UX group within any library system encourages communication between units and creates a better library environment for our patrons.

Michigan State University (MSU), located in East Lansing, Michigan, is the premier land grant institution in the United States. Founded in 1855 as the Agricultural College of the State of Michigan, our University became the prototype for the Morrill Land-Grant Act of 1862 (Michigan State University 2017). MSU, and therefore our Libraries, are open to all State of Michigan residents. Our Public Services division within the Libraries takes this mission very seriously and, with that in mind, rallies around ways to make our materials- websites, guides, information, etc. - more accessible to our community patrons.

Our MSU Affiliate patrons (our faculty, staff, and currently enrolled students) encompass many levels of searching expertise, from novice to expert, and may be engaged in research specific to their discipline, branching out into new areas of interest, or looking at the intersection between many disciplines. Our traditional MSUL homepage set up worked well for our expert users, that is, faculty and graduate students well versed in the library resources in their respective disciplines, but was more difficult to use when delving into interdisciplinary work or for novice patrons unfamiliar with North American academic library culture and set up. Federated searching had come and gone and had not proven helpful.

Our need to better assist our novice users and community patrons, and the increasingly interdisciplinary scholarship done on campus meant we needed to move to a discovery layer (Enis 2014). This process took several years to accomplish. While the MSUL had been aware of discovery tools for some time, related discussions between Web Services and Public Services were circular for much too long. We talked, but not well, about how to resolve the issues we were seeing. Public Services librarians were excited at the prospect, especially for improving the search experience for novice researchers. Web Services librarians were hesitant due to concerns about setting up the discovery tool to work well with the web interface. Subject specialists and bibliographers were less enthused since their users were expert researchers who would not reap as much benefit from the discovery tool. However, with the improved functionality of these types of products over the years, and given the basic premise that a discovery tool simplifies the exploratory research process, there was finally consensus for MSUL to move forward with implementation of ProQuest's Summon 2.0.

Although discussion took several years, implementation of the discovery tool, locally named SearchPlus, was slated to occur at break-neck speed with a quick, three-month deployment timeline. With this "hurry-up and get it done" mentality, there was little time to develop a comprehensive work plan. Furthermore, we were getting minimal assistance from the vendor, ProQuest. It was a journey of trial and error, or learning by doing, which along with the limited time and lack of plan, made everyone a bit nervous and anxious. Administration charged an Acquisitions librarian with oversight of the purchase of SearchPlus. Six teams were put together to oversee various aspects of the project: Set Up & Web Design, PR, Training, Metadata Transfer, Assessment, and Link Resolver. The Set Up & Implementation Team was charged with making decisions about the integration of SearchPlus on the MSUL home page and the design and functionality of the results. With a nice mix of Web Services and Public Services librarians, it was a good opportunity to continue the conversation and steer each other toward the achievement of this common goal.

However, SearchPlus discussions and decisions were based on each Set Up & Implementation team members' experiences with little consideration toward the end user. Debates ensued - which of the nineteen facets should we implement? How should we use the Database recommender? What should be the one link allowed at the top of the page? How do we determine Best Bets? (N.B. Best Bets, in the Summon system, are automated suggestions based on keyword use provided by discovery layer. Typically based on common searches found when analyzing catalog and website search boxes, the information can be pre-loaded into Summon.) Active dialogue surrounding the implication of replacing the online catalog (OPAC) with SearchPlus also occurred based on the assumption that SearchPlus indexed all print holdings. At this point, consensus was still lacking. For the sake of progress, the conversation needed to shift and focus on the end user. We needed a bridge in both practice and language and coincidentally, around the same time as the SearchPlus implementation, the Public Services division had created a new User Experience (UX) unit.

User experience at the MSUL is a grassroots approach to building a culture that enhances services for all end users. Applying user experience principles lessens confusion, promotes an intuitive experience, and adds impact and value for our patrons, important considerations when competing for time and attention. This transformative movement started in Web Services with usability testing of the MSUL homepage and quickly gained momentum. First, the User Experience Work Group formed to improve collaboration on various disparate assessment projects. Then, with the hiring of a User Experience & Assessment Librarian, and the reassignment of two Web Services librarians, UX

became an official unit within the Public Services division in 2014. Since its formation, the UX unit has taken an active and leading role in improving spaces and services, including but not limited to website usability improvements.

The Web Services and UX units at MSUL remain two completely separate units. We do not report to each other or even to the same division, but librarians in each unit are passionate UX practitioners who understand the importance of web usability. Thus, the two units are informally accountable to each other and responsible for deliverables from each unit. This synergy has helped bridge this communication gap and steered conversations to stronger consideration for the end user. On this note, the Public Services librarians serving on the Set Up & Implementation team suggested conducting usability testing as a way to influence the integration and design of SearchPlus into the MSUL home page.

The UX unit took the reins on this usability project with the objective to answer, “How should SearchPlus be integrated into the Libraries’ website?” Due to the accelerated deployment schedule, we kept the scope of the usability testing limited to design, layout, labeling, and top-level searching. We were less interested in analyzing how users interacted with SearchPlus results or the interface of the results page after completed searches. Given these focused objectives, we decided to use A/B testing, which is best for testing slight variations in design (Schmidt 2014, 18). Web Services designed two mock-ups integrating SearchPlus into the MSUL website’s search box (See Figure 1 and Figure 2). Since testing would occur prior to deployment, a sandbox environment for SearchPlus was developed to use for top-level searching.

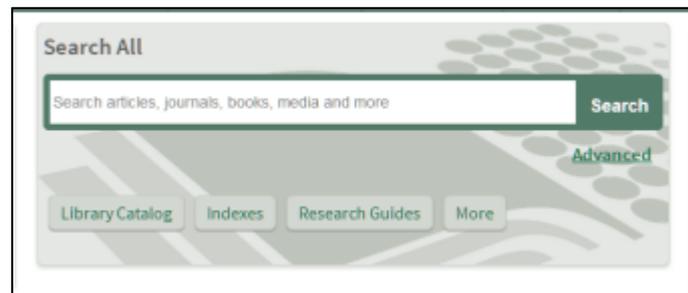


Figure 1: Layout ‘A’: SearchPlus Usability Test

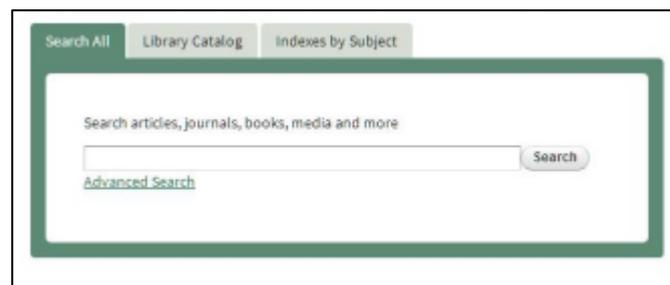


Figure 2: Layout ‘B’: SearchPlus Usability Test

The A/B testing gauged how each of the two mockups affected users’ perceptions and use of the MSUL homepage. Tasks were defined to focus on these four questions:

1. Does the layout make sense to the user?
2. Does the labeling make sense to the user?
3. How does the design and labeling affect the user’s search behavior?
4. How do users respond to the design?

The UX unit conducted tests with three participants and each participant was assigned five tasks to attempt using the SearchPlus search box on each of the mockups. Each task was geared toward different types of searching: known item, broad topic, specific article from citation, database name, and course guide. Open-ended questions asking participants to rank and comment on each layout were asked toward the end of each testing session to gain insight on each user's perspective. Results of the A/B testing were analyzed and comments were compiled and shared with Web Services to prompt a data-informed decision about how to design the integration of SearchPlus into the MSUL home page (Tobias and Sanford 2014). These efforts of the UX unit initiated a common understanding between Web Services and Public Services and helped build consensus between these units. We successfully integrated SearchPlus into the MSUL homepage in August 2014.

Once this bridge of communication was established, it was critical to keep it open. The SearchPlus Assessment team, one of the six initial discovery layer teams mentioned previously, also had members from the UX unit and set out to evaluate SearchPlus post-implementation. The objectives of the Assessment team included setting benchmarks for usage of SearchPlus, comparing usage statistics against the online catalog (OPAC), and determining Return-on-Investment (ROI). This team worked closely with Web Services and UX to conduct usability testing of Search Plus in an effort to make local improvements to both the search and results interfaces. Additionally, this team worked closely with other units in Public Services, such as Reference and Distance Learning Services, to analyze transaction logs and chat reference transcripts (Chua et al. 2015) These cohesive efforts helped further diminish the communication gap between Web Services and Public Services and established a positive, productive working relationship between these two groups of librarians.

The birth of the MSUL UX unit alone did not (and cannot) solve all our discovery layer problems. Although UX did bridge the communication gap between Web Services and Public Services, we still need a system-wide culture change encompassing planning, assessment, and reiterative process. We talk extensively about user experience but still struggle to keep our end users, our patrons, in mind. We are collecting many data sets through the Libraries, including data on the discovery layer, but are lacking a context. Essentially, we have most of a story but not all of it.

Our foray into discovery was fraught with indecision and yet the Libraries did not use that time for any sort of comprehensive planning. Implementation, although successful in the sense that it was usable and integrated, was hurried. We could not point to any definitive outcomes - no definition of "success" and no means of assessing that success, although we assumed patrons' usage might tell us. So then, which outcomes do we point our resources, which outcomes do we assess:

- Student success? Requiring access to student records as well as a means of tracking individual student's use of the discovery layer would require a system-wide cultural shift. Patron privacy is a deeply entrenched value in many of our librarians and library staff members. Even assuming we had the technology in house to do so, our organizational culture would be slow to adopt this line of thinking.
- More seamless access to our resources (both print and electronic)? Currently, none of our EBSCO databases index in our discovery layer (Summon 2.0, a ProQuest product) as they do not "natively integrate". In laymen terms, these systems are proprietary and they will not share information. Furthermore, as databases update and campus IT security morphs and changes, our sole electronic resources librarian struggles to keep up with our link resolvers, our proxy servers, and the like.
- Easier search functionality? Usability testing can help with this but we don't have an official "discovery" librarian to oversee and optimize the functionality. No point person means no advocate for a better tool.
- Reduced cognitive load? Usability testing can test whether our users have to "think less" in order to use our resources but let's face it, Google Scholar is still easier for aggregated searching across ALL databases, not just one platform over another.

- Better public service? Although Reference desk statistics are falling, we have no way of establishing whether that is due to the discovery layer (easier searching means less need for mediation) or the overall decline of service desk numbers in general. Anecdotally, faculty do not care for SearchPlus as discovery doesn't work well for advanced researchers, unless specifically looking at interdisciplinary materials.

We have since renewed our discovery layer subscription for another three years, in part because we as a system had no means to tell if Summon 2.0 works for us or not. The easy bet was to say that it works... because we have not formally heard otherwise other than faculty anecdotes. Without a designated "discovery librarian", our discovery layer is a bit of an orphan. The Libraries system has no one to spearhead a new Request for Purchase (RFP), no one to spend the time to research alternatives or even whether alternatives are necessary. We cannot even reasonably answer whether we need a discovery layer or if is this just one more research tool among many others. Our inertia carries us forward but without intention.

This is not to say that we have not made significant gains. Web Services and Public Services are certainly more united in the way we think about patrons as users of our materials and sites. We share a common meaning in our terminology. Small changes in reporting structure and organizational charts could potentially realign services in our library system, allowing for better oversight of a discovery layer. Continuing the effort to support a user-centric culture, the UX unit is still leading the way, currently assisting Web Services with the implementation of a user-friendly "bento box" display to filter and organize search results, while bridging the divide between Web Services, Systems and Public Services. (N.B. Named for the Japanese meal container, a bento box displays search results from several different library resources such as catalog, databases, research guides, etc. in neat little sub sections, side by side, on one page.) (Singley 2016) Users remain the core of our existence and the application of user experience ensures that the MSU Libraries stay relevant to the institution and its community at large.

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