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Deep Blue / Michigan Research Experts Integration, Next Century Library Share Summit

Welzenbach, Rebecca

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Rebecca Welzenbach, Research Impact Librarian
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Michigan Research Experts is the name for a suite of tools, services, and data services that together aim to provide the best, most comprehensive possible record of scholarly work associated with University of Michigan researchers, both for internal use, such as seeking collaborators or reporting on departmental activity, as well as externally summarizing expertise and activity on our campus. The core of the system is a tool called Symplectic Elements, a research information management system from Digital Science. Elements is fed with data from many different sources, and it in turn feeds information into Dimensions Profiles, the public facing version of the project.

Right now, the project I am closest to addresses just this small section of the map: the integration of Deep Blue documents, our institutional repository built on DSpace infrastructure, with Elements. Essentially, we want our IR to feed data into Elements just as any other external data source--like Scopus, Web of Science, arXiv, or the MLA International Bibliography--would do. And what's more, we want this connection to work in both directions: Elements will be able to harvest information about each record in Deep Blue and associate it with the appropriate researcher's profile, but *also*, researchers will be able to deposit work from their Elements profile into Deep Blue at--as we understand it--the click of a button.

This work is ongoing, and there's a lot to do. Since September we have been working through a number of preparatory steps laid out by the Digital Science team, who are guiding us through this process. We're now seeing the light at the end of the tunnel for setting up the data crosswalk that will allow us to harvest data from Deep Blue into Elements. Right now, in fact, today or tomorrow, we expect that the first test harvest of a small, selected subset of Deep Blue records into Elements will take place. Once we are comfortable with how the harvest process is working, we'll move on to the other direction -- deposit. Hopefully this whole stage of work will be done in January sometime.

For the last couple of months, we have been making slow, sometimes bumpy, but steady, progress through the process of mapping every metadata field in Deep Blue to an appropriate metadata field in Elements (or creating such a field if needed). Our repositories assistant Martha Stuit, in consultation with Jim Ottaviani, has led this work and implemented customizations to the Elements data structure where needed to accomodate data flowing in from Deep Blue.

It's been a long and complex process and, like most projects everywhere, only a small number of the challenges are actually technological--much more often the challenges are those that arise from humans interacting with humans.

So, first of all: there are some fundamental differences between in the data structures in Deep Blue and those in Elements that make exact mapping from field to field impossible. We've had to make some decisions about where to compromise, what trade-offs are acceptable; where it makes sense to forge a custom solution to bend Elements to our needs, vs. letting go.

Right now, we're very focused on accurate ingest and representation of Deep Blue objects in Elements profiles, so it can be easy to lose sight of the bigger picture of the entire record of scholarship in Elements. For example, if we create a lot of customized settings for Deep Blue objects, we might be able to represent all the detail and granularity that we have in Deep Blue--but we might accidentally silo Deep Blue objects away from everything else in Elements. In general, our guiding principle has been to prioritize ensuring that Deep Blue records will integrate smoothly with all the other records in Elements--e.g., using default types where possible, etc. We try to maintain as much granularity as possible coming from Deep Blue, and have used customized sub-fields to maintain specifictiy that exists in Deep Blue but on in Elements, but only to the extent that these customization don't interfere with ensuring that Deep Blue items show up well in standard reporting, searching, etc.--in usual ways that we can expect usual people to engage with this system.

The rest of the challenges are the usual human ones:

- This is a huge product roll out, and there are a lot of people involved in the library, at the Medical School, and at Digital Science. Some of these folks are all on one or more similar calls related to other aspects of this roll out every week. So ensuring that the right people are at the right meetings to weigh in and make the decisions that need to be made can be challenging--who has authority, whose preference takes precedence in each scenario? We're in a good place, I think, but with a team of 5+ at the MEdical School Office of Research and HITS, 5 at the library, and 2 at digital science it can be tricky.
- Communication has also been challenging. We have weekly video conferences, a great deal of work has been carried out in a massive Google Spreadsheet, and Digital Science uses Basecamp to track tasks and also communicate. In other words, there are *lots* of places to document and communicate what's going on--and yet, almost weekly, each check in call has a number of confused silences as we try to describe the relationships between data elements and how the software will interpret them, often using ambiguous language (type, sub-type). Likewise, almost every weekly call includes at least one--and sometimes more--lightbulb moments where we suddenly "get" something that wasn't at all clear before.
- The final challenge that our group has faced thus far in this part of the project is that the library team is totally new to this product that the Med School team and the digital science team has been working on extensively for nearly a year. And, our work on this part of the project is very detailed and narrow--Deep Blue to Elements only--but for those who are new to the Michigan Research Experts product, understanding the big picture and how all the components fit together can be really difficult. Each week things come a little more sharply into focus, but it's a learning curve and it can feel like we're playing catch-up.
- We anticipate additional complexity and new decisions to make as we work through the data mapping crosswalk "in reverse" for the Elements to Deep Blue deposit process.

What we're excited about in the future!

- Easier for faculty to deposit in Deep Blue -- this will increase Deep Blue's comprehensiveness. We hope it might also remove some of the work/friction in offering additional mediated deposit services/guidance to faculty.
- Greater visibility of Deep Blue resources, especially OA resources and non-traditional formats (i.e., beyond the journal article), which might otherwise be invisible to a

reporting/faculty profile system. Especially potentially exposing appropriate Deep Blue objects and data sets in the public facing version of Michigan Research Experts--not currently possible because limited to articles and conference papers.

- Integration of Deep Blue data!