IDEALS:
Shifting to a Service Focus at the University of Illinois

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Introduction

IDEALS (Illinois Digital Environment for Access to Learning and Scholarship, online at www.ideals.illinois.edu) is the set of scholarly communication services and collections that use the institutional repository (IR) as infrastructure at the University of Illinois at Urbana–Champaign. IDEALS is a joint initiative of the University Library and the Campus Information Technology and Education Services (CITES), the central information technology (IT) unit on the Illinois campus. Since opening its doors in 2006, IDEALS has grown to include over 8,000 items (including published material, gray literature, presentations, data sets, student research, and blog posts) with representation from 60 percent of the colleges and schools on campus. IDEALS now sees approximately 1,400 downloads per day. While IDEALS was originally initiated as a traditional IR, that is, as a repository-centric infrastructure to collect, manage, provide access to, and preserve research produced on campus, the program is slowly and steadily shifting to provide a range of services to support scholarly communication activities in close collaboration with faculty, academic units, and students. This case study provides a brief history of IDEALS and an overview of IDEALS services, infrastructure, policies, and scope, and it discusses some of the services and projects under the scope of IDEALS and reflects on lessons learned.

Brief History of IDEALS

In mid-2004, the University Library and CITES proposed an IR service to the provost in a white paper titled "Illinois Digital Scholarship: Preserving and Accessing the Digital Past, Present and Future" (Grady, Mischo, and Sandore, 2004). The white paper focused on two issues: the growing complexity of the digital scholarly environment, particularly for preservation of the output of the academic enterprise, and the need for new models of digital scholarship. The IR would provide an essential

infrastructure for the university to both preserve the output of the university and provide a way to influence the current scholarly communication system. The proposal was successful: the Office of the Provost provided six years of funding (approximately $700,000 total) to the University Library and CITES to get the IR established and off the ground with the expectation that it would be assessed at the completion of the six years and either incorporated into operational budgets as a standard campus service or phased out.

IDEALS thus started off with several advantages that many IRs do not have: high-level administrative support, dedicated resources over a relatively long period of time, and a collaborative partnership between two campus organizations. The funding allowed the library to hire two full-time staff members in late spring of 2005 to support the IR: a coordinator and a technical lead. A working group that included faculty, librarians, archivists, and CITES staff was also formed to provide guidance for IDEALS staff. One of the first decisions of this working group was the software to be used. DSpace was chosen over Eprints, Fedora, and Xythos (a commercial product) because it was open source, could be installed quickly, and had a relatively large and active user community in the United States. However, the group perceived a number of gaps in the software and identified areas that the technical lead could customize. This working group was also responsible for the establishment of policies (such as the collection policy, access restrictions, etc.). A subset of the working group, led by the Preservation Librarian, began to look at preservation issues.

Between June 2005 and April 2006, IDEALS staff focused on implementation and customization of the DSpace software, working with university counsel to establish the license agreement and intellectual property policies, document policies and procedures, plan for digital preservation activities, and perform preliminary outreach to librarians, faculty, and others. IDEALS opened its doors for deposits in April 2006; it ran in pilot mode until October 2007 when its technical infrastructure was moved from the University Library's servers into the CITES data center and it was designated a production-level service. As IDEALS transitioned from a project to a programmatic service (organizationally it sits under the Office of Information Technology Planning and Policy in the University Library), the working group was disbanded. The Preservation Working Group continues its work with a focus on meeting the requirements for a trustworthy repository using the "Trustworthy Repositories Audit and Certification: Criteria and Checklist" (RLG-NARA Digital Repository and Certification Task Force, 2007).

Over the past three years we have heavily customized the DSpace software. Customizations include the additions of statistics that count number of downloads, community-level administrator functionality, ability to rearrange the steps in the deposit process, and an overnight process that converts certain types of file formats like Microsoft Word or Excel to a less platform-dependent file format like PDF or CSV for access purposes. The IDEALS technical lead, Tim Donohue, is one of 15 DSpace committers (DSpace developers who can commit code to the

The development of the checklist was the responsibility of a joint task force between the Research Libraries Group and the National Archives and Records Administration. It has since been updated, and the revision is available at the Center for Research Libraries' Web site at **www.crl.edu/ content.asp?l1=13&l2=58&l3= 162&l4=91**.

central DSpace code repository) worldwide, and most of these customizations have been made available to the DSpace community or have been added to the central DSpace code.

IDEALS' Scope, Policies, and Services

From the start IDEALS has had a clear scope in terms of the types of materials that could be deposited. IDEALS collects, manages, and preserves the research and scholarship produced at the University of Illinois as well as materials that reflect the intellectual environment of the university. Administrative records, standard curricular material, and digitized special collections except those that represent scholarship from the university fall outside of the collection development scope of IDEALS. "Materials that reflect the intellectual environment of the university" can include resources like journals that are produced at the university but contain articles from researchers outside of the institution and talks given by researchers from other institutions. Faculty, staff, and graduate students can deposit directly into IDEALS; a faculty member must sponsor undergraduate work. Current material in IDEALS ranges from faculty pre- and postprints, entire journal runs, data sets, technical reports, and working papers to video, audio, and a selection of student work. Like most DSpace installations, IDEALS is organized into communities and collections that tend to correspond to research and academic units on campus. Communities are established in consultation with the units and individuals involved and may be managed according to the needs of that unit or individual within the bounds of IDEALS' policies and procedures.

IDEALS has fairly standard policies and procedures in place. All IDEALS policies and procedures can be found at https://services.ideals.uiuc.edu/wiki. They are also archived within IDEALS itself. They are reviewed on an annual basis but also are updated more frequently as the need (generally in the form of a situation that we had not anticipated) arises. The policies that IDEALS staff refer to most frequently are outlined here:

- **Collection Policy:** The collection policy outlines the collection scope for IDEALS, as well as who can and cannot deposit into IDEALS. This policy is quite valuable in that it outlines the dimensions of the collection in IDEALS and has allowed IDEALS staff to say no to some material that is clearly outside its boundaries.

- **Intellectual Property Policy, including the license agreement:** The intellectual property policy and the nonexclusive distribution license for IDEALS was developed in collaboration with university counsel. Of special concern was what the depositor would warrant when depositing and, therefore, what the university was not taking responsibility for. For example, if a copyright dispute arises, IDEALS will withdraw the contested item

until resolution has been reached. IDEALS will not act to resolve the issue, however, as this is the responsibility of the depositor.

- **Digital Preservation Policy, Digital Preservation Support Policy, Service Level Definition, and Format Recommendations:** This set of policies and recommendations form the core of the digital preservation policies for IDEALS. The guiding principle behind IDEALS' preservation activities and commitment is that the service be explicit and open about what it can and cannot commit to in terms of long-term preservation. These policies and procedures were developed and honed after participation in the Digital Preservation Management Workshop (offered at Cornell at the time, but now offered through the Interuniversity Consortium for Political and Social Research [ICPSR] at the University of Michigan) and a continuing review of the "Trustworthy Repositories Audit and Certification: Criteria and Checklist" (RLG-NARA Digital Repository and Certification Task Force, 2007).

- **Access Restriction Policy:** Although the IDEALS program strongly prefers that materials deposited in IDEALS have no access restrictions placed on them, this policy outlines when and how access restrictions can be instituted. IDEALS' implementation of DSpace has been customized to allow a depositor to place an embargo or restrict access to a specific group during the deposit process.

- **Access and Use Policy:** While the policies described are aimed at the depositor audience, the Access and Use Policy is explicitly directed at end users of the material in IDEALS and covers issues such as accessibility, copyright, and IDEALS' commitment to open and reliable access to the research it contains.

Other policies include withdrawal, metadata, and community policies as well as frequently asked questions that support and augment the developed policies.

IDEALS offers or is developing the following services:

- **Bulk deposit:** Often a department or research center will have a large set of material to deposit with associated metadata in spreadsheets, databases, or citation management software like RefWorks. IDEALS staff will map the metadata into DSpace's internal format and import all of the files at once.

- **Mediated deposit:** In addition to bulk deposit, IDEALS staff will also deposit individual items on behalf of researchers; this often occurs particularly with researchers who are either too busy or too uncomfortable with the deposit interface.

- **Consulting on author rights:** IDEALS staff will consult with faculty and researchers on what may or may not be deposited based on publisher policies. This consultation includes writing to publishers to request permission for deposit as well as general

guidance on how to read copyright transfer agreements. In addition, IDEALS offers workshops throughout the semester for graduate students on author rights. Early in the establishment of IDEALS this set of services had been thought to be outside of the scope of IDEALS; it quickly became apparent, however, that this was a crucial service to provide.

- **Digitization services:** IDEALS works in collaboration with the Digital Content Creation unit in the University Library to provide digitization services for faculty and departments. This includes both individual and runs of items.

- **Consulting on data sets (pilot):** IDEALS does accept small- to medium-sized data sets and works with researchers to determine what other materials should be included with the data set(s) to make them interpretable and usable.

- **Analysis of faculty publication history (in development):** IDEALS is collaborating with staff at the University of Wisconsin–Madison in the Wendt Engineering Library and the University Library system on the development of BibApp. This software application allows an institution to gather the publication history of its faculty, present it in a variety of views, automatically perform a preliminary assessment of which publications may or may not go into a repository, and push those publications that can be deposited directly into a repository using standard protocols. Although BibApp is still in active development, it has the potential to be a useful and compelling "front door" to IDEALS or any IR.

An example of a data set in IDEALS can be found at **http://hdl.handle.net/2142/3524**.

For more information on BibApp, see **www.bibapp.org**.

In addition, the University Library is exploring collaboration opportunities to provide journal and conference proceeding publishing services (via Open Journal Systems or other means) under the umbrella of IDEALS.

Lessons Learned

As IDEALS passes into its third year, the lessons we learned may be useful to other organizations considering or implementing an IR. Perhaps the most significant lesson for the University Library and CITES was that the success of IDEALS would be predicated on it shifting from a repository-centric service to a program with a set of services for which the repository provided infrastructure but not its raison d'être. This change in perspective is not unique to the University of Illinois (Salo, 2009; Duranceau, 2009) but allowed the IDEALS program to reframe and expand its services in terms of the actual needs of faculty and researchers within the larger scholarly communication environment. An important outcome of this shift has been the slow but steady uptake by subject liaison librarians of the full range of IDEALS services as tools for collection development and dialogue with faculty and departments. IDEALS staff also offer general consulting on author rights and data curation even if the outcome of those conversations does not result in

the deposit of items into the IDEALS repository but into a disciplinary, funder's, or even no repository. In addition, the workshops offered for graduate students on author rights do not tend to directly benefit the IDEALS repository but hopefully provide a foundation for decisions by future faculty members at other institutions. Although this shift in perspective may seem subtle, it has proven invaluable in allowing IDEALS to build a strong foundation for a range of scholarly communication services.

Other lessons learned include the following:

- *Do not rely on self-archiving by researchers.* Like most repositories, IDEALS was originally conceived with the idea that researchers would deposit their materials on their own. This was quickly discovered to not be the case, and IDEALS has since shifted to mediated deposit, bulk deposit, and automated identification of items for deposit. Also, as described previously, IDEALS focuses on far more than just the published literature; gray literature such as technical reports and working paper series are considered important parts of the scholarly record at the University of Illinois and are prime candidates for inclusion into the repository. Another "easy win" has been establishing an electronic thesis and dissertation program with the Graduate College.

- *Understanding the scholarly publishing and communication landscape of a discipline is critical to a fruitful discussion with a researcher in that discipline.* The discussion with an engineering faculty member about IDEALS services is different than that with a history faculty member because of disciplinary differences in the scholarly publishing landscape. For example, in the experience of IDEALS staff, humanities faculty tend to be more uncomfortable sharing preprints or nonauthoritative versions of their research than those faculty in the physical sciences. Knowledgeable subject liaison librarians can assist in having these conversations with researchers.

- *Eliminate bureaucracy.* In a default DSpace installation, a depositor has to ensure that she has been given submission rights to a specific collection before depositing. This generally means that a potential depositor has to contact the repository manager or the manager of their collection to get permissions; if the potential depositor does not have a collection already established, she then has to have one set up, which may, in turn, mean involving her colleagues and department to get agreement about policies, who may deposit, etc. This last process can take a very long time. As an example, there is one community in IDEALS that took approximately two years to establish because the organization, description, and community policies had to be vetted in the department's executive committee. Early on, IDEALS established an open collection called "UIUC Research and Scholarship" that was open for deposit to any faculty, graduate students, and

staff at the University of Illinois. Because IDEALS is linked up to the campus' authentication system, depositors never have to e-mail IDEALS staff if they want to deposit; they can simply log in and are automatically given permission to deposit. This collection, however, is perhaps the best evidence within IDEALS of the failure of self-archiving: it currently holds only 100 items that have been deposited without any type of mediation on behalf of the depositors.

- *Enable flexibility.* In addition to eliminating bureaucracy, it is crucial to be flexible so that the needs of faculty and researchers can be met. Flexibility within the IDEALS repository has been enabled programmatically by allowing departments, research centers, and others to manage their own communities and collections. Within the scope of the general IDEALS guidelines, communities can decide who deposits, what is deposited, and the structure of the communities. IDEALS also regularly reviews and updates its policies, services, and functionality in light of user needs and requests.

- *Work with nontraditional users.* One of the most successful and interesting collaborations for IDEALS has been that with the Ethnography of the University Initiative (EUI) and is focused on building an archive of student research on the university and surrounding community. This cross-campus program offers students the opportunity to conduct original ethnographic and archival research on their own institutions and to archive this research, including the data from the field studies, in IDEALS for future students (and others) to build upon. The University Library works with the faculty directors of the EUI to educate both faculty and students involved in the program about publishing, open access, and copyright. This is also an important example of a program where the repository provides critical infrastructure.

- *Use a variety of success metrics.* There is ongoing discussion in the repository community on how to assess the success of a repository. The expansion of IDEALS to include a variety of scholarly communication services has forced the consideration of a much broader range of assessment metrics than just the standard ones of number of items in the repository and number of downloads. This framework of assessment is still under development but includes percentage of departments whose faculty and graduate students have made some use of IDEALS services, understanding impact of workshops and other consulting services, tracking where citations to material in the repository appear (e.g., in Wikipedia, blogs, or tweets), and how material in the repository is used or reused.

Most critical to the success of IDEALS has been time, resources, and high-level administrative support. That the initiative was originally conceived with six years of dedicated funding allowed the program to

experiment and to develop useful services. The timeline also recognized that much of the impetus behind IDEALS meant significant culture changes that would take a long time to occur. Dedicated resources allowed focused attention on services. The high-level administrative support—from the University Library, the Office of the CIO, and the Office of the Provost—helped to establish the credibility of the program in the eyes of faculty members, department chairs, and deans of colleges, as well as within the library itself. As stated earlier, that IDEALS had time, dedicated resources, and high-level administrative support does make the program atypical of where most IRs begin, but the hope is that this case study provides an illustrative example of what can be possible if these three things are in place.

References

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