

## **The Institutional Repository at West Virginia University Libraries: Resources for Effective Promotion**

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### **Abstract**

Institutional repositories (IRs) in higher education serve a number of purposes including collecting, preserving, making accessible and promoting university research. Collaboration between the administration, the libraries and the information technology groups is critical to the success of IR programs in order to serve the diverse needs of the university population. Research is discovered much more rapidly and citation counts increase dramatically, particularly in an online open access environment. ETD programs have proven their worthiness in this manner for graduate students; however, faculties are just beginning to understand these implications in regard to their own research dissemination. Even publishers are reexamining their views on open access. This presentation will explore the evolution of the IR at West Virginia University as well as various political dimensions related to mandatory versus voluntary submission policies.

### **Introduction**

Institutional repositories are digital library collections and related services through which internally generated research can be deposited, preserved and accessed on the Web. West Virginia University launched its own institutional repository, the Electronic Institutional Document Repository (eIDR) program in fall 2005. The eIDR system includes portals to WVU graduate, undergraduate, faculty and administrative research collections.

### **Overview**

The first collection evolved from the Electronic Thesis and Dissertation (eTD) program, which serves graduate (master's and doctoral) students and has been a part of the graduation requirement since 1998 (WVU was 2<sup>nd</sup> in the world to have mandated a required ETD submission policy). The next collection, the Electronic Scholarly Resources Archive (eSRA) serves the faculty and

administrative groups. This began as an experimental pilot, and includes publications such as pre-prints, post-prints, technical reports, white papers, conference proceedings, and institutional / administrative reports. The newest collection added was the Electronic Honor's Theses (eHT) program, which serves undergraduate honors students. The Honors College now requires electronic submission of a thesis about their final capstone research experience.

## **Background**

The initial project began with the implementation of the ETD program, now in its 8<sup>th</sup> year, and has evolved into an improved digital library system with new collections to serve the entire university community. The eTD module averages over 1 million accesses (thesis and dissertation file downloads) per year. This represents a 145,000% increase in access over our print thesis and dissertation collection. Our most popular dissertation was accessed over 15,000 times in the first year of release. Faculty have found the system to be an invaluable tool, not only for submission, review and discovery of basic research, but also as an administrative tool to compile promotion and tenure reports as well as departmental reviews for accreditation.

The eSRA program followed with a pilot to collect the proceedings from ETD Symposia 2000 – 2002; the collection was recently migrated to the new eIDR system. This module naturally segued into an all purpose repository for faculty submissions, but has been underutilized used by our faculty. Recent requests have been considered to host collections such as administrative planning documents and statistical reports, undergraduate service learning portfolios and graduate music bibliographies.

The latest module we developed, eHT, is very similar to the eTD module but customized for their program needs, and was implemented in fall 2005. The eHT collection is entirely open access. Most of these students will go on to produce ETDs as graduate students. The Honors program was recently elevated to the status of a college in the University to remain consistent with national accreditation standards. The eHT collection will help support this important mission by providing access to the research of our young budding scholars.

With the assistance of a number of faculty and staff members from the Office of Information Technology, the University Libraries, and the WVU ETD Task Force, the team has been working diligently since fall 2004 to complete the new submission and access portal systems on the Oracle platform. Oracle is the same system that WVU utilizes for its centralized human resources and financial functions, and is used by many commercial IR service providers.

## **The Future**

In the coming year we are planning to put out a request for proposals to seek commercial vendor support for the institutional repository programs at WVU. It is imperative that we have a single system capable of supporting the full range of DAMS (digital asset management system) functions. Resources such as the SPARC Institutional Repository Checklist & Resource Guide were utilized in preparation of this process.

Given the considerable impact on the collection and distribution of university research, it is important that we integrate into the eIDR system a strong commitment to and compliance with the latest technology available. Commercial IR systems offer full support for integrated NISO and NIST industry standards such as Open Archives Protocol for Metadata Harvesting (to share our resources with conglomerates such as Google Scholar via Dublin Core metadata output and to provide for automated cataloging processes via MARC 21 metadata output), METS (Metadata Encoding and Transmission Standards), Z39.50 (universal catalog protocol), JPEG2000 (image base standard), EAD (Encoded Archival Description), MODS (Metadata Object Description Schema), TEI (Text Encoding Initiative), full text indexing and search capability, XML, UNICODE, Single Sign-on LDAP authentication and e-preservation strategy.

Keeping up with this constantly changing technological environment has presented great challenges to our in-house operation. Additional factors warranting this next step include reduction of a growing over dependence on internal IT support, competing demands and deficiencies in IT development and technical resources necessary to maintain a project of this size. A review of various commercial and open source IR systems including 5-year projected cost estimates for migration and annual maintenance was completed in spring 2005. Open source systems were also considered, however, the high cost of customization, migration, implementation and maintenance would not outweigh the benefits and competitive cost of a stable and proven commercial system where expert support is continually provided. For example, Florida State University reported that the estimate for an IT developer to get D-Space up and running would have been \$180,000; although the software is freely available, set up is not free.

Of all the systems we have reviewed, the Ex Libris DigiTool product appears to rate among the highest in terms of efficiency, standards integration, presentation and value. Campus demonstrations for vendors will be scheduled for fall 2006, with vendor selection, migration and implementation to follow, and final launch of the new system scheduled for fall 2007.

## **Open Access and Incentives**

As has been demonstrated at peer doctoral research institutions, the collecting of (typically) unpublished academic materials offers tremendous exposure for the school, is critical to the assessment of the scholar's and institution's well being,

serves as an aid to institutional planning and results in enabling departments to better plan and fine tune program offerings. As we shall see, many experts in the field advocate mandatory open access for ETDs and faculty research. In his opening keynote address at the ETD 2006 Symposium, Peter Suber (Budapest Open Access Initiative) indicated that 70% of publishers currently allow open access to their post-prints, noting that the US will soon mandate open access for major government funded research within 6 months of release. The studies reviewed by Stevan Harnad (ePrints - University of Southampton) as presented at the ETD 2005 Symposium demonstrated that scholars, who in addition to publishing in the traditional academic journal avenues also deposit their works into open access IRs, are cited between 2 and 5 times more often. He suggests that some scholars have experienced even as much as 50% to 250% increase in citations. In his closing keynote address at the ETD 2006 Symposium, Jean-Claude Guédon (University of Montreal) pointed out that faculty often don't know what is good for them but attitudes will change as they see the popularity of their student's thesis and dissertation research when given open access; this will entice scholars to submit their research to IRs. He even goes on to advocate that institutions of higher learning should automate their promotion and tenure evaluation systems, and use deposits to IRs to document their progress. As a case in point, from 1998 to 2005 WVU has seen a 28% increase in the number of students willing to provide open access to their ETDs, having grown from 53% to 81% in just five years time. We have found that education and recognition through citation are the key factors in determining how a student and committee members will approach the notion of Web distribution of the ETD. Further, the ETD program has now received over 6 million accesses since inception; faculties are taking notice of their student's research dissemination and the resulting citation augmentation. Just as with the open access dilemma for ETDs, how long can an institution afford to wait before taking the electronic plunge at the faculty research level?

By expanding our digital library initiative to include not only the graduate, but also the undergraduate and faculty population, the IR program provides an incredible benefit to our students, faculty, staff, research programs, the institution, and indeed the international scholarly community by delivering the unique global exposure that only open access on the Internet can provide. Additionally the centralized institutional repository program offers the perfect mechanism for the deposit, search, discovery and acquisition of research materials.

WVU graduate research documents are now accessed millions of times per year by academia, industry, government and the public from over 100 countries, and we expect similar usage among the new eHT and eSRA collections. The eIDR program is part of a growing trend of technological development that is transforming economies by providing access to research results to the world while bringing reciprocal investment back to the local level.

**References:**

1. WVU ETD Program Source Material: Hagen, John H. / Proceedings presented at the Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth and Ninth International Symposia on Electronic Theses and Dissertations, 1999 - 2005.
2. WVU Institutional Repository Program Source Material: Proceedings from the Eighth and Ninth International Symposia on Electronic Theses and Dissertations, 1999 - 2006.

WVU eIDR is available online at <http://eidr.wvu.edu/>

Copies of all presentations and source material are available at <http://www.wvu.edu/~thesis/presentations&stats.htm>