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A Primer on How to Launch an Institutional Repository Successfully

Larry Sheret

Marshall University, sheret@marshall.edu

Thomas L. Walker II

Marshall University, walkert@marshall.edu

Gretchen Rae Beach

Marshall University, beachgr@marshall.edu

Jingping Zhang

Marshall University, zhangj@marshall.edu

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Recommended Citation

Sheret, Larry, Thomas Walker, Gretchen Beach, and Jingping Zhang. "A Primer on How to Launch an Institutional Repository Successfully." *The Charleston Advisor* 16, no. 3 (2015): 48-55.

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ADVISOR REPORTS FROM THE FIELD

A Primer on How to Launch an Institutional Repository Successfully

doi:10.5260/chara.16.3.48

By Larry Sheret (*Instruction & Emerging Technologies Librarian*)

<sheret@marshall.edu>

Thomas Walker (*Music & Digital Services Librarian*)

<walkert@marshall.edu>

Gretchen Beach (*Catalog & Digital Services Librarian*)

<beachgr@marshall.edu>

Jingping Zhang (*University Librarian/Director of Libraries Operations*)

<zhangj@marshall.edu>

Abstract

This is a case study about the implementation of an institutional repository (IR) at Marshall University. Libraries have always collected information from a worldwide marketplace and have disseminated these resources locally. The IR has created a new function for the library by making it practical to acquire locally developed resources and to disseminate them freely worldwide. This has altered the traditional role of librarians and suggests a broader set of implications for the future usefulness and relevancy of the IR as doors open to new partnerships that will strengthen the university and the library's place within it.

Introduction

This article focuses on the procedures developed to implement a successful institutional repository (IR), rather than on the evaluation of various IR software products or hosting services. The best platform to adopt will be based upon an institution's requirements and the mission that has been established for the IR. At Marshall University (MU), the process to implement an Open Access institutional repository began with the development of a clear vision about how the IR would benefit the mission of the university through the collection, preservation and dissemination of its intellectual output. A detailed plan was drawn up for the resources needed, including funding, equipment, software and staff. This plan was promoted to the administration for its approval as well as to secure funding.

Committee Formation

After discussing the idea of an IR and receiving the support of her supervisor, the University Librarian/Director of Libraries Operations formed and chaired an ad-hoc Committee for the MU IR Pilot Project in March, 2011. The committee did extensive research to identify how other institutions were using IRs to publish, promote, and provide access to their intellectual property. It also identified a wide range of materials that were being produced by Marshall University that could quickly and relatively easily be used to populate an IR. The result of this research and committee work was a white paper <http://mds.marshall.edu/lib_faculty/2/> (Zhang, et al., 2011) and a presentation <http://mds.marshall.edu/lib_faculty/1/> (Zhang, et al., 2011), which were delivered to the Assistant VP for IT/Online Learning & Libraries and to the Senior VP for IT/CIO, and other IT Executive team members. Although a two-year grant was originally sought, the IT Department generously provided \$85,000 for a three-year (July 2011-June 2014) pilot of MU IR. The white paper identified and expanded upon the following items.

Justification

- An institutional repository will establish the university's research distribution strategy.
- An institutional repository will enable the Academic Affairs Office of the Provost to better serve the university's mission.

Objectives of an Institutional Repository (IR)

- Create global visibility for an institution's scholarly research.
- Collect content in a single location.
- Provide Open Access to institutional research output by self-archiving it.
- Store and preserve other institutional digital assets, including unpublished or otherwise easily lost ("grey") literature (e.g., theses or technical reports).

Proposed Timeline (May 2011)

During the two year pilot project, the University Libraries would proceed as follows:

PHASE 1 (MONTHS 1 TO 3)

1. Purchase and implement an IR system. The Committee recommends the purchase of Berkeley Electronic Press (bepress) Digital Commons.
2. Identify strategic partners around campus (individual faculty, departments, colleges or schools, and administrative groups).
3. Identify various forms of material (digital documents, large databases, research, reports, working papers, teaching materials, pre-prints, multimedia) as content.
4. Develop guidelines for processing electronic documents and adding metadata, guidelines for reviewing submitted material, and criteria for removing documents.

PHASE 2 (MONTHS 4 TO 15)

1. Place initial contents into the IR system.
 - Theses and Dissertations
 - Some faculty collections: Liaison librarians serve as an essential bridge between the repository and the faculty.
 - Capture one conference or major campus event, e.g., Commencement
 - One year of digital video collection (WSAZ-TV news film)
 - Two years of the university yearbook

- One year of previously un-digitized and digitized *The Parthenon*
 - One image gallery from Marshall University's Photo Collection
 - One Image gallery from Marshall University Libraries Special Collections
 - One year of audio files from Marshall University's Department of Music
2. Use recommendations of strategic partners to build our first department and college collections.
 3. Validate content uploaded to the IR.
 4. Validate workflows and processes.

PHASE 3 (MONTHS 16 TO 21)

1. Continue to add content.
2. Open IR for public use by month 16.
3. Campus Conversation to introduce IR.
4. Evaluate content download.
5. Evaluate workflows and processes.

PHASE 4 (MONTHS 22 TO 24)

1. Continue to add content.
2. Continue to evaluate use, downloads, workflows, and processes.
3. Develop procedures for long term management and use.
4. Examine the IR and its potential for scaling up to become a critical piece in the overall campus knowledge management infrastructure.
5. Make recommendations for continued use of the IR.

Promoting the IR

After the Administration approved the plan and provided grant money, the new service was promoted by IR team members who went to schools, colleges and department meetings to present and demo the IR. Enticing the faculty to participate in Marshall Digital Scholar (MDS) was done in formal and informal settings. Librarians contacted the departments they liaised with. In a meeting with the Dean of the Graduate School to discuss entering ETDs into MDS, she was so impressed after one demonstration that she sent an e-mail to all graduate school faculty introducing MDS and asked them to send in their CVs (for the list of published titles and unpublished works). That one e-mail netted sixteen faculty. When the new School of Physical Therapy was contacted, two current faculty sent CVs and the program promised that new PT faculty would submit their CVs when they were hired.

Informal discussions of MDS take place anytime. Informal venues that have proved to be productive include the annual fall President's Dinner, the University Christmas Dinner, meetings with faculty about other projects, dinners outside the university setting, and even the library picnic tables during lunch.

Interested faculty were asked to e-mail their CVs, or a list of their publications, along with a request to post their articles. Even though most publishers do not require more than one author to grant permission, as a matter of courtesy, additional permission was sought from all co-authors still employed at MU. The response was almost always positive, and sometimes the co-authors requested that all of their articles be placed into the repository as well. Contacting co-authors for permission to post articles turned out to be one of the most productive promotional tools. Some faculty became acquainted with the repository on the IR's homepage and took advantage of self-enrolling into the system. Others joined the process through hearing favorable com-

ments from their peers. Peer recruitment has been spurred by monthly download reports that are automatically generated and sent to participating faculty (Figure 1).

Many faculty members have been surprised to see how often their articles are downloaded, which inspires them to send additional articles and to tell their colleagues about the IR. Students are also contacted to see if they would like to post their theses and dissertations. ETDs (Electronic Theses and Dissertations), comprise a major part of the IR.

Workflow

GUIDELINES FOR ETDs AND METADATA

The decision was made to follow national cataloging standards, of entering information as it is written on the title page or initial page of the article or ETD. Sometimes there is an issue if the pre-published version has a different title than the posted article, so the note fields are used for these differences. The complete procedures used to post ETDs are available as supplements to this article.

COPYRIGHT CLEARANCE

It is necessary to obtain legal permission to place copyrighted work, specifically, peer-reviewed scholarly articles, into an Open Access (OA) database. It is also important to know and understand the terminology that is encountered when engaged in the task of legally reposting these copyrighted works. Copyright is "...the exclusive right given by law for a certain term of years to an author, composer, designer, etc. (or his assignee), to print, publish, and sell copies of his original work..." (Copyright, 2014).

Before material can be posted in an IR, it must have copyright clearance, which is the formal granting of permission by the copyright holder. Many authors believe they hold copyright over their own published works when, in many cases, they do not. In the definition of copyright above, it is stated that copyright may be held by an assignee. Most publishers and professional organizations require authors to transfer copyright before a work is published.

Because copyright clearance, or permission, may only be granted by the copyright holder, the first task is to determine who holds copyright. The current copyright holder may not be the same entity as the

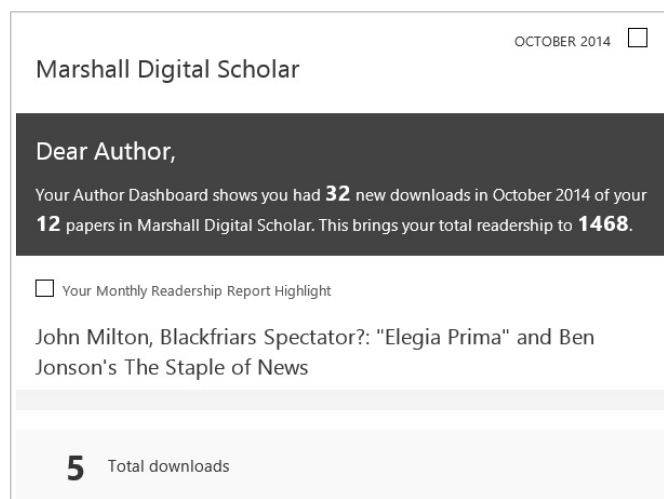


FIGURE 1 Monthly Readership Report

903	Mehta	Response to the Letter by Dr. Markus M	x	Spine	LWW		
904	Mehta	Systematic review of home physiothera	x	J Rehabil Med	Found Rehab Inf		3/14/2014
905	Mehta	Kinematic Analysis of Gait following Intr	x	Physiotherapy Canada	U Toronto		
906	Mehta	The implications of chronic pain models	x	Hand Therapy	Sage		
907	Mehta	Concurrent Validation of the DASH and X	x	Spine	LWW	9/25/2014	9/29/2014
908	Mehta	Moving Evidence into Practice: Case Ex	x	Evidence-Based Rehabilitation: A Guide to	Slack, Inc.	9/30/2014	
909	Mehta	A Systematic Review of the Health-relat	x	2011 ACRM-ASNR Annual Conference	conference		

FIGURE 2 Copyright Permissions Workflow in Excel

original copyright holder, as publishers and published works may be transferred to a different entity when publishing houses are bought and sold, or when copyright is passed to a different organization. For example, a learned society will occasionally turn over its publishing operations to a commercial publisher, which normally entails transfer of copyright to the publisher. The current copyright holder must grant permission.

In many cases, a good place to begin to determine the copyright holder is on the first page of the article. The copyright notice is normally located at the top or bottom of the page. The copyright will be ascribed to either the author/s, journal, publisher, professional association, or a combination of these. Shared copyright is most common in anthologies or books with several contributing authors. In many cases, each author holds exclusive rights to the individual contribution (such as a book chapter) and the publisher holds copyright over the entire book.

Once the current copyright holder has been determined, it may take time to locate the copyright holder’s contact information. There are several ways this can be done. If “copyright © the author” is listed, copyright clearance has already been secured from the moment the author made request to place published articles into the IR. When an article has multiple authors, one is normally assigned to be the contact author, and this information is on the article itself.

If “copyright © the journal,” or “copyright © the publisher” are listed, consult Sherpa/Romeo online at <<http://www.sherpa.ac.uk/romeo/>>. Select the appropriate window to search Journal or Publisher, and enter the name. If Sherpa/Romeo has this name in its database, contact information and copyright guidelines will be available. Read the copyright guidelines for the journal rather than the publisher, if this is an option, as publisher guidelines may vary from one journal to the next.

The information provided by Sherpa/Romeo is for guidance only, and is not legally sufficient to provide permission to post. It will, however, provide an orientation to the copyright requirements likely to be encountered and it will list the contact information for the rights holder and provide links to the publisher’s copyright policies.

If possible, contact the editor of the journal, since the editor has legal authority to speak on behalf of the journal. If the editor grants permission to post, this is sufficient to meet legal obligations. Also, the editor will be aware if original copyright has been transferred to a different entity. Because individual articles may have a copyright that differs from the journal’s general copyright policy, the editor would also have this information.

Many large publishers require permission requests to be placed through a third party called Copyright Clearance Center (CCC). When this is the case, a link to CCC will normally be found on the online article’s abstract page. This is useful because it links directly to CCC and automatically fills in the copyright request form with the biblio-

graphic information of the article. CCC can be tricky to use. Be aware that the permission granted is not always the permission sought. For example, when filling out the form, one section asks whether or not the article will be posted in an institutional repository. If yes, permission is often granted. The problem is that CCC assumes that this will be a secure, password protected IR, which many IRs are not. Another misunderstanding occurs when permission is granted, but, on line 21 of the Special Terms and Conditions sheet provided by CCC, it frequently will say, “Only the abstract may be posted, along with a link to the article.” This is a clear case where the permission granted does not match the permission requested. Therefore, when filling out the CCC form, select “post on a Web site” rather than “post in an institutional repository.” However, this will not always result in the appropriate permission either, so another safeguard is to fill out the “special requirements” window, explaining that the author has made a request for the article to be posted on the university’s Open Access IR. Filling in this window reduces confusion and automatically bumps the request directly to the editor or to the publisher of the article.

Some articles are published in Open Access (OA) journals, many of which are listed in DOAJ, the Directory of Open Access Journals. OA must not be confused with permission to post. Many OA articles are freely available, but only from an exclusive site and may not be posted elsewhere. In such a case, an IR may provide a link to the OA article.

The American Library Association and others have created copyright agreements for OA articles that allow authors to retain copyright of the published version of their articles. In most cases, an author’s permission is all that is required to post, but on occasion, the publisher requires that it be informed about the posting. Other publishers prefer that the author assign a Creative Commons (CC) license to OA articles. Even though CC licenses assign copyright to the authors, CC licenses also allow others to post without obtaining permission. It may be desirable to begin populating the IR with this “low hanging fruit,” as a greater number of these articles can be added to the IR in a shorter period of time.

When publishers permit the published PDFs to be used, these are posted, or links to the published PDFs are provided. Once this phase is completed, the faculty members are contacted in order to update them on the progress that has been made in posting their articles. For cases where a pre-published version of an article is the only permitted version, faculty members are asked if they have retained a copy of it. They are informed that this version of the article will be indexed by Google Scholar and made freely available via the Web just as the published version would be. The faculty members usually provide these documents if they have retained them. Unfortunately, in many cases, they have not. When this happens, there are some options available. For articles that have been co-authored, one of the other authors may have a copy. If not, publishers may be contacted for a copy of the pre-published article. Some publishers will freely provide it. Alternatively, they will occasionally grant permission to remove the branding, formatting and pagination from the published version, and to post it.

PDPDF/PAP	author cannot locate		2011	Sheret	
c the authors/OAPD x	http://mds.marshall.edu	http://doi:10.1017/S0022278X11000477	2011;43(6):477-480	Sheret	3/14/2014
PubMed	http://mds.marshall.edu	http://doi:10.1017/S0022278X11000477	2011;63(4):395-404	Sheret	4/16/2014
RAPDF/PAP	x http://mds.marshall.edu		2010;35(24):2150-2156	Sheret	9/25/2014
RAPDF/PAP	x http://mds.marshall.edu		C	Sheret	9/29/2014
monograph chapter	We have the PAP		3rd Edition ed. Thorofare, NJ:	Sheret	
Poster	http://mds.marshall.edu	http://doi:10.1017/S0022278X11000477	Oct 11-15, 2011 at Atlanta, GA	Sheret	9/30/2014

FIGURE 2 Copyright Permissions Workflow in Excel, continued

Workflow Management

It is not unusual to have 100 or more articles in various stages of preparation prior to submission to the IR. Because e-mail correspondence kept in Outlook is arranged by date, it is important to have a way to track the workflow. This may be accomplished easily for each item with a spreadsheet such as Excel. Cells allow comments to be inserted that are visible only by a mouse over. Color coding may also be used to aid the workflow (Figure 2).

After an article’s permission level is determined and documented, the permitted format of the article must be obtained. Finally, an e-mail is created in MS Outlook with the article, author, and copyright holder permissions, the recommended citation, a comment section, and the article’s abstract. This e-mail is sent to another member of the team for additional metadata and final upload to the IR.

Author requests, publisher permissions, article submissions, and other correspondence are saved in MS Outlook. The Outlook account is shared among the IR team members. Key words and dates are used to enable easy retrieval of documentation. There are currently more than 200 publishers and learned societies in the list, and the majority publish multiple journals.

Workflow can be enhanced if faculty are enabled (or required by the Administration) to self-archive a copy of their peer-reviewed manuscript in the IR in addition to submitting it to the publisher. The pre-published manuscript is made visible to the public only after a librarian has determined the length of the publisher’s embargo period and what version the publisher will allow. If the peer-reviewed version is permitted, it is helpful if the author has already uploaded it to the IR. If the published PDF is permitted, this can be obtained by the library to replace the peer-reviewed upload.

Guidelines for Creative Works... Music, Performance Art, and Other Collections

Marshall was one of the first universities to load music collections to the Digital Commons network, beginning with a collection of Edison Cylinders. This collection was a gift many years ago, which sat in a staff member’s office for several years. When the cylinders were rediscovered, they became a priority candidate for the repository. However, there was no way to transfer them (to convert them to a digital format) as the university did not have the \$24,000 in funding to purchase an archeophone. Marshall’s Music and Digital Services Librarian was aware that the University of California, Santa Barbara (UCSB), had received a Grammy Foundation grant for a Cylinder Preservation and Digitization Project for the preservation of these rare recordings. He had previously met the curator of this project through the Association for Recorded Sound Collections. Working with a Digital Services staff member, he created a list of Marshall’s cylinders and compared it with the online files of UCSB and discovered that UCSB had many of the items in their collection and

were in the process of digitizing them. He contacted the projects curator at UCSB, David Seubert, to request permission to link the audio files from their database to Marshall Digital Scholar. When permission was received, Berkeley Electronic Press was contacted about the best structure to use to input metadata. It was decided that the journal format would be most appropriate. However, adjustments needed to be made to the standard journal template headings. This resulted in the creation of a Dublin Core “crosswalk” (Supplemental Material). Several fields, such as Year of Release, Issue Number, Label, etc., were also added to create a logical layout for a recording. Recordings contain subject specific data that are not common to all print media. Thus the crosswalk was heavily relied on to avoid changing all of the fields in every community.

Following the Edison Cylinder collection, recital programs and recorded music were added to Marshall Digital Scholar. The recorded sound collections were split into two parts (recitals and recordings). The idea was to post faculty recitals (scholarly output) as well as the published recorded works. Several faculty members have recorded CDs and the thought of reaching more potential listeners intrigued both our music librarian and the various faculty members. In order to post recorded sound online, modification of the bepress layout was needed again. With the assistance of bepress staff, the librarian chose the book format because it would allow for the program and separate audio files to be posted as chapters. However, it was not clear at first where the files should be posted. The options were bepress or an external server. Among the factors that needed to be considered were:

- Space (2TB) is allowed by bepress as part of their package with the option to purchase more space.
- Compressed audio files such as MP3’s would require less, but would still use a fair amount of space. It could also tax the system with too many simultaneous downloads.
- Posting to the bepress site would allow audio files to be downloaded (violating copyright restrictions).
- Some faculty and recording labels would not allow listeners to download an entire piece or CD for free.

To address these issues, Marshall’s Executive Director of Technology Services was contacted and the decision was made to use a special media server that would provide streaming audio only. In some cases an entire piece would be posted, but at other times, thirty second clips or compilations, depending on accessibility and requests of faculty.

When professionally produced recordings were added to MDS, the same process of reducing bit depth and sampling rate was used. However, this came with potential complications, i.e., format (entire work or a compiled audio), track, length, etc. MDS uses streaming audio because it is not as easily downloadable. We reduced the sampling rate and bit depth to less than CD quality in order to reduce any desire on the part of some users to copy the files illegally. Audio files were loaded to the Marshall media server as they were edited and



FIGURE 3 IR Usage by College

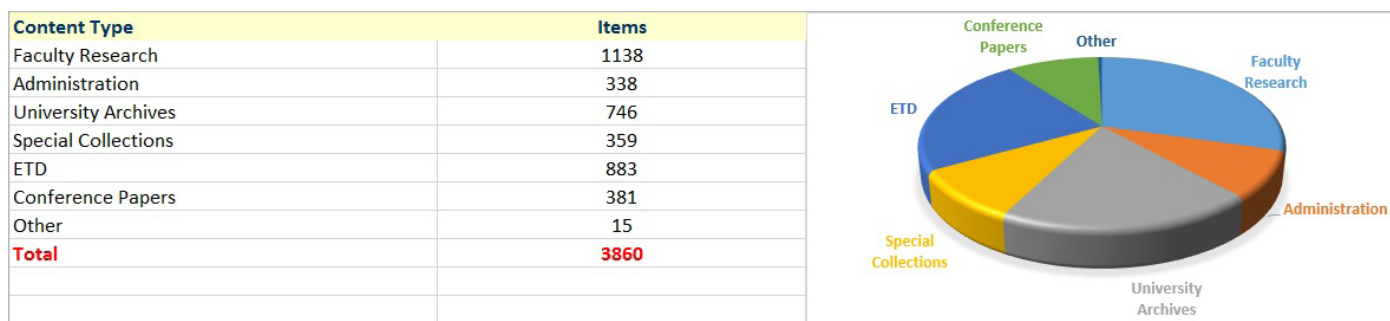


FIGURE 4 IR Content Usage Statistics with Pie Chart

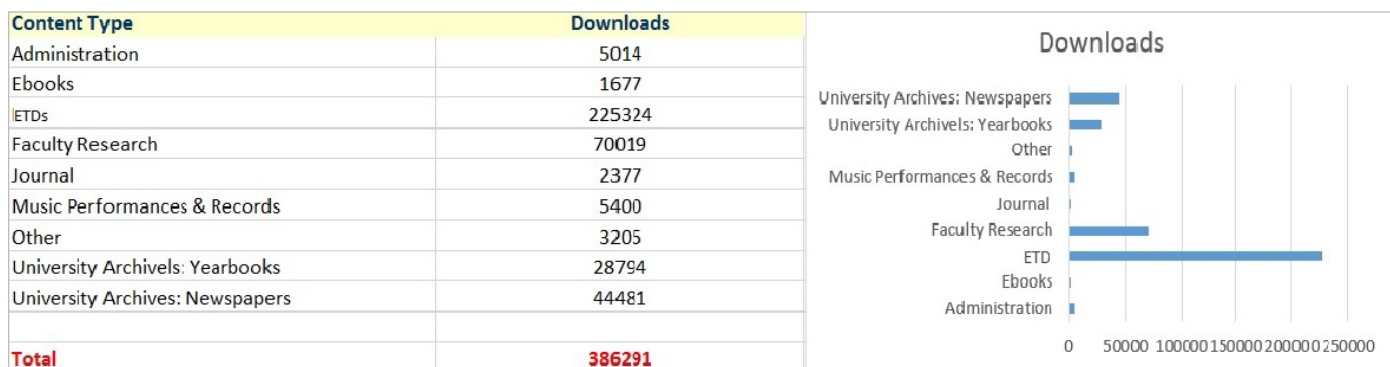


FIGURE 5 IR Content Usage Statistics with Bar Chart

digitized. Currently, audio produced over a six-year period has been added to the server, and the team continues to upload audio works as they are edited and digitized. Several projects require specialized handling and more hands on care from the Music and Digital Services Librarian. The process for loading audio and music performances is still being modified. With each new load, and outside research, ideas are coming about ways to increase efficiency and layout for the recorded sound collections.

The MDS team also wanted to add Special Collections photos to the IR. The librarian in charge of the Blake Collection was brought on-

board to participate in the effort to post the United States Army Corps of Engineers' 1937 Flood Collection photos. It was a relatively simple process to create a special photo gallery for the images to be uploaded to. The metadata assigned was based on the same Dublin Core cross-walk developed early on. The second set of images added was the Caverlee Postcard Collection. These images were also relatively simple to process although they required more metadata.

The third collection added was the Buildings of Marshall: Past and Present. This collection brought challenges to the table. The team wanted to have two photos displayed on one page with corresponding

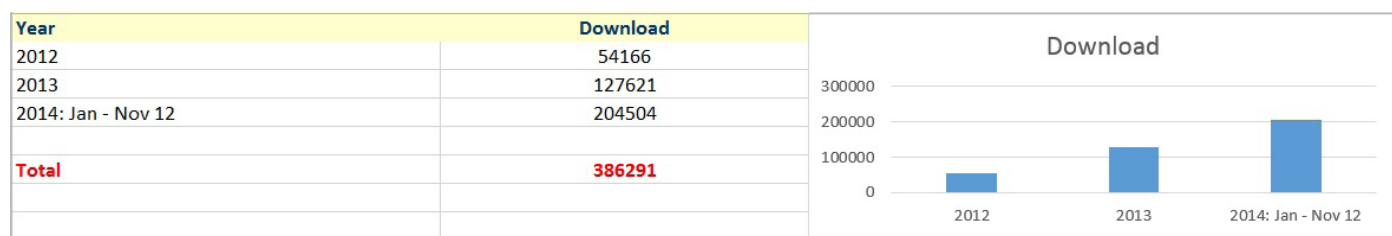


FIGURE 6 IR Usage by Year

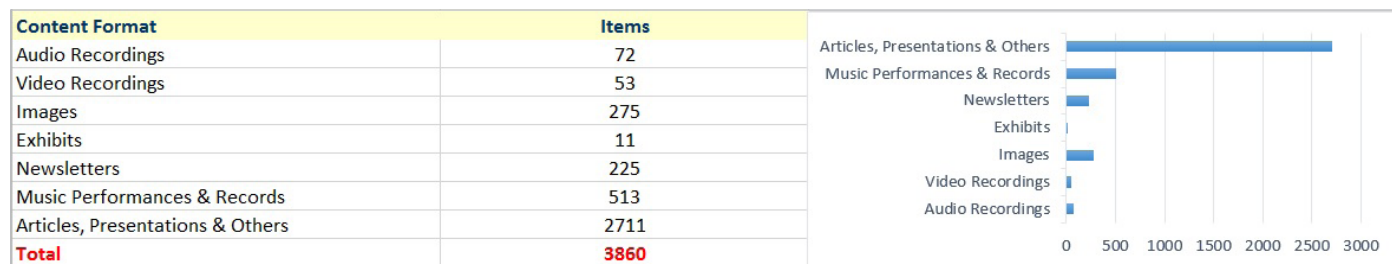


FIGURE 7 IR Usage by Department

metadata for each photo. This was not without complications. There was no way to place two photos side by side in an image gallery, so other options were considered. The first was to put the images in Photoshop to edit them together. That would have altered the images and defeated the purpose of offering images as they appear in the collection. The second idea was to create a gallery within a gallery. That seemed cumbersome because many galleries would have two pictures and viewers could get lost in the gallery tree. The final option was to upload the first image and then place the second image into the comments section of the first image and vice-versa. Each had its own metadata on the image page. This accomplished the task the team set out to do, but not ideally. The team will be exploring other options.

The Music and Digital Services Librarian is responsible for contacting music publishers for copyright clearance. A boilerplate letter was also created to contact publishers with whom the librarian had not previously established a working relationship.

Results

The following data are from the first three years since MDS went public:

FACULTY AND UNIVERSITY PARTICIPATION

- 190 faculty/staff scholarly and creative accomplishments are loaded into MDS and their profiles have been created <http://mds.marshall.edu/sw_gallery.html>
- 18 Colleges/Schools/Units have made contribution in MDS

CONTENT: OVER 3,560 ITEMS

- We Are...Marshall: The Newsletter of Marshall University from 2000-2011 (223 items)
- All Marshall Yearbooks: 1908-1995 and the Indexes to Marshall Yearbooks (40 items): <<http://mds.marshall.edu/yearbooks/>>
- Minutes for Board of Governor (Sept. 2001-current) and Faculty Senate (Sept. 1995-current)

- Parthenon (Sept. 2011-current): <<http://mds.marshall.edu/parthenon/>>
- Council of Chairs Minutes (2008-2014)
- Marshall University IT Newsletter
- Articles, e-books, book chapters, presentations, theses, videos, music, and photos.
- Journal: <<http://mds.marshall.edu/euscorpius>>
- Appalachian Studies Association Annual Conference: <http://mds.marshall.edu/asa_conference>

Figures 3, 4, and 5 show data on IR content and usage.

USAGE

There were 386,291 downloads from January 1, 2012 to November 12, 2014, from 180 countries. Downloads have doubled in each consecutive year (Figures 6 and 7).

Marshall University has one of the most popular IRs in the Digital Commons Network for the following subjects or disciplines:

- Physical Sciences and Mathematics Commons
- Social and Behavioral Sciences Commons
- Arts and Humanities Commons
- Architecture Commons
- Education Commons
- Medicine and Health Sciences Commons
- Life Sciences Commons
- Business Commons

Discussion

CHOOSING THE RIGHT PLATFORM

A small IR could be operated from a traditional Web site. Many of the procedures already discussed would be applicable to the launch

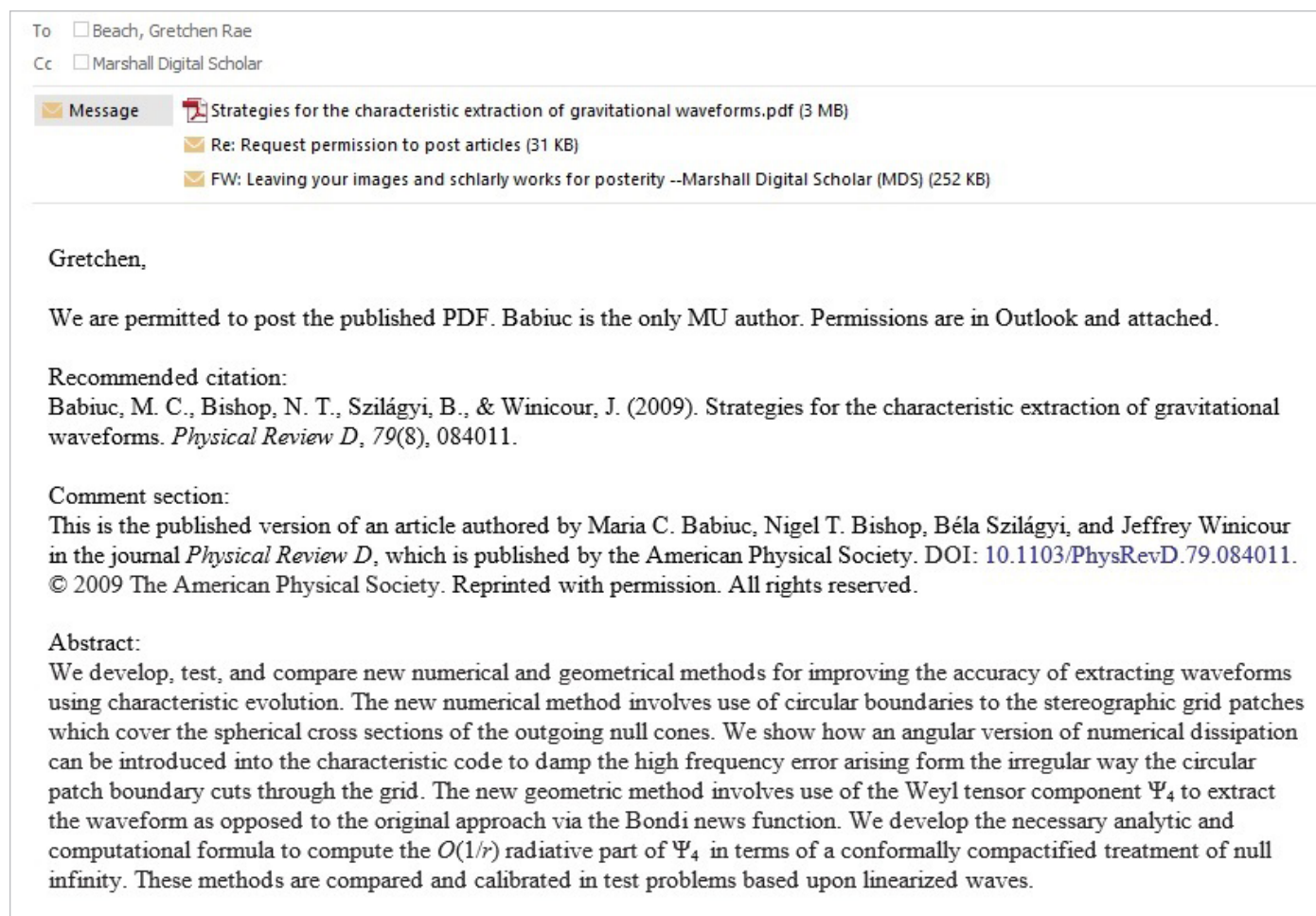


FIGURE 8 E-mail Documentation of Copyright Permissions

and operation of such a site. For some academic institutions, it might make sense to create and operate an IR through a Web site and migrate it to a robust platform later on.

Many institutions may prefer to use open source products for their repository needs. It may seem like a cheaper option initially but there can be major costs involved. An open source solution typically requires a programmer, someone with knowledge of coding as well as data input and library structure. It is not common for smaller institutions to have a person like that on staff. It would be necessary to justify a yearly salary for one person vs. a yearly subscription that comes with an IT support team. While an open source does offer a “sky’s the limit” opportunity, it also requires a strict maintenance schedule, constant programming and consistent hardware support, which is not a simple task for many smaller institutions looking to establish a repository.

PARTICIPATION

One of the biggest challenges the Marshall Digital Scholar team has faced is participation. The initial marketing plan involved several of the team members going to department meetings and demonstrating MDS. This was somewhat successful, but it was apparent that many faculty members were unsure how the service would work for them. Many of them were worried about the amount of work involved. To ease their minds, the MDS team offered a “we do the work for you” initiative. The only thing the faculty would have to do would be to

provide the team with their CVs and a request to post their articles. This increased participation, but many faculty members were slow to supply their CVs. A bump in participation came when faculty members saw what the service was doing for their colleagues. This increased participation within certain departments.

COPYRIGHT CLEARANCE AND METADATA

The library determines the level of copyright clearance for each item in the collection to ensure legal compliance. No copyright holder has ever contacted the library regarding an illegal posting, but in the event this should happen, U.S. copyright law provides “limits on liability relating to material online” <<http://www.copyright.gov/title17/92chap5.html>>. Items that infringe upon copyright need to be taken down or made invisible to the public within a reasonable period of time after formal notification is given, usually within ten business days. Many faculty members do not understand copyright, the various levels of copyright clearance, or how to obtain the proper clearances. Removing this burden has lessened confusion and improved faculty participation. Four MU librarians devote a portion of their work schedule to the IR, obtaining copyright clearances, adding metadata, and contacting faculty.

SECURITY OF DOCUMENTATION

E-mails that document copyright clearance and contain the permitted version of the article to be posted in the IR are sent to another librarian who adds metadata, reviews accuracy of the information, and per-

forms the final upload to the IR. The e-mails are also saved in a separate Outlook folder in perpetuity to provide evidence of copyright compliance. This folder is periodically backed up in PDF format. If the PDF converter is not functioning on your desktop, an easy fix is to install the latest version of Adobe Acrobat XI Pro and Office 2013. Then, install updates to Adobe Acrobat XI in order to enable the PDF converter plug-in (Figure 8).

Future of the IR

There is reason to believe that users will become more predisposed to accessing pre-published articles as the cost of published versions increase. Studies have shown that, in many cases, OA articles posted in IRs enjoy higher citation rates than their counterparts. One such study was conducted by the University of Georgia Law School and it found citation rates for law articles increased about 50% (Watson & Donovan, 2011). This implies that publishers who get behind the Open Access model can expect to see higher impact factors for their journals.

As faculty buy-in increases, efficiencies might be gained by training faculty to submit their own work to the IR. However, because most of the faculty lack expertise in copyright clearance, it may be counterproductive for them to control the entire workflow. One option is to allow them to upload articles, but not to allow these articles to become visible until copyright clearances have been obtained by IR staff. The library would act as a gate keeper to ensure legal compliance. As faculty members experience the frustration of being denied usage of their published works, it is anticipated that they will begin shopping around for publishers that permit Open Access posting, even if an embargo period is required.

Euscorpius was Marshall's first OA journal hosted by the IR. In the future, a regional Appalachian journal on Digital Forensics may be migrated to MDS and managed by Marshall's Digital Forensics program, which would also solicit papers from practitioners; folks such as digital forensic professionals, lawyers, information security pros... pretty much anyone who deals with some form of digital evidence. The Center for Sermon Studies is planning to host a new journal, *Sermon Studies*, on MDS by January, 2016. One of the MDS team members has been recruited to be on the journal's editorial board.

The Appalachian Studies Association (ASA) Annual Conference planning committee set up the thirty-seventh ASA conference in MDS. It was the first time MDS was used to manage an International Conference. The IR captured and displayed information such as the location of each program, as well as the start and end times resulting in a chronological view of the conference program and schedule. The ASA saw this as a great partnership and opportunity to bring the conference to a greater audience. Each presenter had the opportunity to submit their presentations, research or papers to be published in MDS after the conference. Housing the conference materials within MDS has made these information sources available to a much wider audience, it brought people into the folds of Appalachian studies and is a

fortunate archival opportunity for the association. Marshall sees this as the tip of the iceberg in regards to using MDS as a digital repository for future conferences at Marshall. Conferences provide a wealth of pioneering research and information sources that would not otherwise be readily available to researchers worldwide.

Conclusion

Experience has demonstrated the utility of an IR to make locally generated research, information, and creative works available to the world in ways unavailable until now. The result is that the library has found another way to become an import part of the university's identity.

The IR empowers library involvement in non-traditional roles. The IR portion of the ASA conference was managed by Reference and Instruction Librarian, Eryn Roles. The IR integrates research from around the Appalachian region and makes those sources available to anyone in the world. The University is a great partner of the ASA, and MDS's engagement with ASA is yet another example in which librarians help to accomplish the entirety of the university's mission.

Authors' Note

Additional resources, such as marketing presentations, author, and publisher permission forms and workflow guidelines are available as supplements. In References, see Supplemental material for "A primer on how to launch an institutional repository successfully."

Authors' References

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