

Note to reader:

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--Sunny Pai

Greetings,

Thank you for this opportunity to share my work experience with you. My “easy” name is “Sunny” and I am the Digital Initiatives Librarian and Accreditation Liaison Officer at Kapiolani Community College.

I have travelled here from my life in Hawaii, <Hawaii-2> a collection of islands in the middle of the Pacific Ocean * . I have heard it is the most isolated populated land mass in the world. I work at a 2-year college supported by our state government, Kapi‘olani Community College <KCC-3>. The college has 8,400 students, average age 25 years old <students-4>. We prepare students with the first two years of university courses required to earn a 4-year University degree and we also provide students with nationally recognized 2 year degrees in fields such as Culinary Arts, Nursing, and Emergency Medical Services.

KCC is part of the larger * University of Hawai‘i System. The University of Hawai‘i at Manoa * Library adopted DSpace in 2006 and established two repositories for its main 4-year and research university, ScholarSpace <scholarspace-5> and Evols <evols>. I was a part of the team that implemented DSpace at the University. In 2008 I moved to Kapiolani Community College, and I established a DSpace instance for the system’s seven 2-year colleges and its other two 4-year universities <dspace-6>.

Most universities and colleges in the United States are evaluated by a voluntary, peer-based, non-governmental system that has been effect since the 1890s. This is a national system of 7 regional accrediting commissions, and <accjc-7> the Accrediting Commission for Community and Junior Colleges (ACCJC) accredits universities and colleges in Hawai`i, California, and the Pacific. The national government exerts influence through the United States Higher Education Act by approving the regional commissions and through its regulatory functions.

If a college or university fails accreditation, the immediate consequences are withdrawal of national government funds for student financial aid. Loss of accreditation severely restricts the legitimacy of licenses, certificates, and degrees earned at the institution and students may not be able to transfer to other schools or use their professional licenses in other parts of the country.

Our college < KCC-8> undergoes a full evaluation every 6 years with follow-up visits if the commission determines that it is necessary. An evaluation takes place when the college answers critical questions set by the commission. Members of the college do the research and “self-

evaluate” the quality of the college’s work. The purpose of the evaluation is to show that the college meets or exceeds national standards of educational quality. The full evaluation report prepared by the college is, if you will, an important institutional record of the college. It is a snapshot of the college in a moment of its history.

A self-evaluation results in a report <2006-cover-9> often several hundreds of pages long and * several hundred evidentiary documents which support the veracity of the report. The commission sends a visiting team to the college who read everything about the college, including reports submitted by the college up to 12 years prior.

My first introduction to accreditation began * September 2010, when I was asked to co-chair the 2-year task of writing our 2012 self-evaluation report. I was given a copy of the 2006 full evaluation report <2006-cover-10> and introduced to * six file boxes of supplementary documents. Paper and digital records of reports from 2000 and 1994 were difficult to locate. Digitized documents with poor metadata were found in the college’s intranet. In the 2006 report, many references * made to * websites and documents were bad links <url not found> or the websites had been completely redesigned and no longer contained the referenced information. There was discussion that, in 2011, our IT department was going to migrate our intranet to a new system and no one knew what would happen to the report files on the intranet.

ACCJC requires the Accreditation Liaison Officer to keep complete records of all these evaluation reports. The college’s records, dating back to the 1990s, are stored in multiple locations and one of my tasks as the new Accreditation Liaison Officer will be to organize these records.

Back to the 2012 report. The ACCJC regulations for 2010 required us to submit the report with in-text links to cited websites. I did a quick scan of contemporary reports and found colleges were linking to websites over which they had no control, some colleges were linking to one or more internal servers, and in one case a college created a MySQL/PHP database. I asked myself, how reliable will these links be 6 years from now when the colleges are preparing for their 2018 visit?

<Advantages-11> I approached our administrators and made the following case about DSpace:

- * DSpace would support our needs with existing personnel
- The evidence documents would be accessible “decades” from 2012 and the links would not change, EVEN if we had to house the repository at another institution.
- Websites, although rendered as a static image, could still be viewed as they were in 2012,—it would be a true “photograph” of reference information in 2012.
- * DSpace allows for text and keyword search of the evidence documents
- DSpace is hosted by our own parent institution and I am very close to its development team.

- DSpace, because it is integrated with the University of Hawai‘i’s ldap (Lightweight DirectoryAccess Protocol) system, can differentiate between campus affiliation, faculty, staff, and students and allow access accordingly
- * DSpace has a strong developer community and large installation base among prestigious universities around the world.
- Another advantage: The manuals and rules by which these evaluation reports are written undergo regular annual updates. I was concerned to notice that, for example, the 2010 guidelines at the commission’s website disappeared when new guidelines were put on the website. I uploaded into DSpace the versions of the rules by which we wrote the report. 10 years from today, those rules may be needed to explain some aspect of our report.

I also cautioned administration and other leaders of the report writing effort that DSpace is not meant for drafts but for finalized documents. The more technical advantages of using DSpace included:

- The documents could not be changed except by the dspace administrator
- The dspace administrator would be able to enforce, at the very least, reasonable filenames and sensible document titles for over 400 evidence documents coming in from over 10 sources.
- We can add sensible metadata to describe these documents and put them into context.

The college’s leadership agreed to try DSpace. Then I braced myself for craziness < tsunami-12>.

<structure of committees-13> We had * 120 volunteer researchers and writers for the self evaluation. The lead committee had * 17 members, with 11 writers and 1 editor.

<3 versions-14>We decided our output would include three output versions:

- * A digital report online with links that went over the internet to evidence in DSpace
- * A digital report on a thumb drive with links that went to evidence on the same thumb drive
- * A paper report with all evidence documents made available on paper by request

* For the purpose of this presentation, I will focus on the DSpace version.

<workflow-15>We had to produce a report and its evidence. * The report workflow started with writing the draft and the evidence workflow began with writers collecting evidence produced by the college. * Then the writers stored the evidence in the college’s Sakai Learning Management System. * At about the third draft the writers would insert links in the report to the evidence documents stored temporarily in Sakai. * Then another librarian, our Electronic Resources Coordinator Steph Nelson, went through the draft report, downloaded all the evidence documents from Sakai, and converted them to PDFs. These evidence documents were then

loaded into DSpace using several batch uploads. * The links in the draft report were changed to links to documents in DSpace. Finally the report's * references were formatted .

<workflow2-16>Here is the movement of the evidence documents from the writers to the college's Sakai, then to DSpace. Using Sakai as an intermediary gathering location was a good strategy, as it gave the writers full control in editing or changing the evidence documents until they were ready for linking from the report.

Sakai was also useful in allowing the report to refer the reader to hundreds of evidence files that could be randomly browsed; files that were not loaded into DSpace. I will talk about this more later.

<metadata-spreadsheet>The metadata spreadsheet had one unique record for each of the over 400 documents. We then created a second spreadsheet. Each record represented each instance an evidence record was cited. There were over 700 citations, many referring to the same document in Dspace. Each url citation record had the handle url and the direct link to the document.

<sequence-url>The Steering Committee wanted the report reader to click on a link in the report and be shown, *not the item record in DSpace, * but the exact page of the referenced document. This required the use of what I call the "sequence" url *, for example:

<http://dspace.lib.hawaii.edu/bitstream/handle/10790/476/www.capitol.hawaii.gov-hrs0304A104.pdf?sequence=1>

If we needed to go to a specific page in the document, we added the page number (very useful in very long documents) *:

<http://dspace.lib.hawaii.edu/bitstream/handle/10790/476/www.capitol.hawaii.gov-hrs0304A104.pdf?sequence=1#page=2>

<citation-endnote-pic-19>We were concerned that using the "sequence url" would not assure permanence as a link. In the Reference section, * the "Reference" link points to the designated page * in the evidence document in DSpace. * The "Archive link" is the persistent handle url that points to the item page. We spelled out the handle url so that someone using the paper report could type it into the browser to pull up the digital document. The "Doc #" * is actually a reference to the unique number assigned by DSpace when it ingests a document. We used this number in two ways, as a reference to the physical document and how it would be found in a paper file system and as a reference to the digital document residing on a thumb drive.

<metadata-20>

We kept to minimal metadata; we had so little time and there are errors:

- dc.contributor.author
- dc.title

- dc.title.alternative (used for original filename)
- dc.type
- dc.type.dcmi
- dc.date.issued
- dc.description (when possible)
- dc.relation.uri (for “live” websites)
- dc.relation.ispartofseries (used for first citation instance)
- dc.description.abstract
- dc.format.extent (for pages)
- * dc.date.accessed: for websites was added to indicate when evidence was accessed online

<challenges-21>

There were several “workflow” and “work style” challenges:

- Our writers and leaders had a broad range of computer experience and we had unix, Mac, and Windows platforms
- With so many writers filenames were very inconsistent. We followed a few rules for filenames, such as no spaces and lower-case letters only and made those changes right before adding the files to DSpace.
- Documents were frequently updated, even toward the final draft of the report.
- We often had to reformat documents or vet the information submitted.
- At times I had to delete the item record and upload a revised document, changing the url information in the report.
- On the rare occasion that a link was already written into the report and it was too late to change the report, I deleted the bitstream and loaded in a new bitstream.

<Other technical challenges included-22>:

- Firewall issues creating download speed problems. We kept our largest evidence files to 25MB.
- We were not able to convert the evidence documents to PDF/A
- A website with a Flash banner did not convert well to PDF
- There were behavioral differences among the browsers
- In 2013, Adobe Acrobat’s “/page=##” notation did not work as well as in 2012.

<Use of Sakai-23>

- There was a need to display hundreds of reports for the visiting team to browse. We used Sakai, organized the reports into browsable folders, and made the folders public. We did use sample reports as references and included them in DSpace.

- Links in websites that were PDF'd continued to work, linking to external sites.
- * The link from the report goes to a * an evidence document in DSpace that is a PDF of a web page of folders in Sakai. If the reader clicks on a * folder, the reader is sent to Sakai and sees an organized list of the documents. The reader can choose which document to view. Please note that THESE documents are not “preserved” in DSpace. What is saved in DSpace is the listing of the folders and 2 or 3 documents representing this large collection of documents.
- An advantage of using this method is that additional reports could be added to the folders after the report was finalized; the link goes to the folder, not the individual evidence document.

<item-page-24>

There were very few DSpace configurations and issues:

- * We reversed the item page display so that the link to the document was seen before the metadata.
- * We added a Dublin Core metadata field “dc.date.accessed” to note when a website was viewed.

<checksum-25>

What would have been helpful:

- An automated way of regenerating a checksum for a replaced bitstream

<2012 report-26>

Conclusion:

I believe we have successfully made the case to our leadership that this organizational report, safely stored for the long term in our institutional repository, will be a critical asset to the college

We continue to use this workflow and have produced a report in 2013 using the same methods and are in the process of producing another report for October 2014

<Thank you-27>