

Report

on

Fagarkivet: a proposed Institutional Repository for non-peer reviewed materials in HIOA

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Executive Summary

An institutional repository is a digital asset management system that allows the deposit and subsequent distribution of digital files over the internet. The Learning Center of Oslo and Akershus University College of Applied Sciences (HIOA) have an institutional repository named ODA (Open Digital Archives) for peer-reviewed publications and master theses. The Learning center of HIOA feels the necessity of archiving non-peer reviewed materials and other teaching and learning materials that the faculty members have and do not fall with the submission policy of ODA. At this stage, the Learning center proposed for the other institutional repository named 'Fagarkivet' to be initiated by non-peer reviewed materials of HIOA with the DSpace open source software. A number of faculty members have been contacted through e-mail; semi-structured face-to-face interviews have been conducted with seven faculty members of four different departments. This report identifies the potentiality of the proposed institutional repository. It categorizes different types of materials that the faculty members like to put in the repository, the required file format that should be adapted and necessary metadata fields. This report also includes the opinions of faculty members, possible obstacles and promotional issues of the same. It is evident that a centralized system is essential to preserve non-reviewed intellectual output, reuse and share the same with the concerned community. It is found that the proposed institutional repository is welcome by the faculty members and that will directly contribute to knowledge preservation of HIOA.

1 Introduction

Institutional Repositories (IR) are becoming an increasingly important type of special resource and service offered by libraries (Li et al., 2011). Libraries are building repositories to archive the intellectual output of their faculty members, scholars and students (Shreeves, 2009). Institutional repositories also include non-peer reviewed published materials. It is estimated that only 13 per cent of the materials in institutional repositories are peer reviewed. IR often contains presentations, historical research conducted at the university that has been converted into digital form, working papers, technical reports, electronic theses and dissertations, and datasets (McDowell, 2007; Shreeves, 2009). Moreover, non-peer reviewed literature is nonetheless an essential part of scholarly communication, often presenting research data in a more timely and detailed manner than is possible in formal publications (Genoni, 2004). The Learning Center of Oslo and Akershus University College of Applied Sciences (HIOA) already has an Institutional repository ODA (Open Digital Archives) for formal publications. The Learning Center feels the necessity of archiving non-peer reviewed materials and other documents that the faculty members have with them and does not match with the submission standard of ODA. However, the faculty members are archiving those non-peer reviewed materials by using different media and sharing the same in diverse ways. It is highly believed that a centralized system is essential to preserve this intellectual output and to reuse and share the same with the concerned community. This report identifies what type of materials the faculty members have and they like to put in this repository; what are different file types using by different departments than traditional types; and what should be designed for the, sorting and ordering the metadata fields into pages, with labels of explanations for the employees.

2 Learning Center of HIOA

Oslo and Akershus University College of Applied Sciences (HIOA) is Norway's largest state university college, with a student body of approximately 16,000 students and 1,600 employees. HIOA has four faculties located at two campuses: Pilestredet and Kjeller. It has four faculties: Faculty of Health Sciences, Faculty of Education and International Studies, Faculty of Social Sciences, Faculty of Technology, Art and Design. It offers more than 50 Bachelor programs, 25 Master programs, three PhD programs and a large number of other courses.

HIOA learning center is the heart of education and research for its students and faculty members. The library system contains links to reliable and credible sources and different electronic services for the users. The sources and services are accessible to users on and off campus. It has a department for digital services (the digital library) too. The department has 4-5 employees and is responsible for the learning center website, the digital publications, the management of shared electronic information resources, and the research documentation for HIOA (Rahman, 2011). The HIOA have an institutional repository named ODA (Open Digital Archives) that includes peer-reviewed journal articles and other scientific documents, approved theses of master and PhD students from HIOA's own research programs. Faculty members should upload their scholarly journal articles here. This applies to documents published after 01 January, 2010. In those cases where journals do not allow open publishing, or where the co-author does not approve the publication, the publications are stored in a closed archive.

3 Purpose of new Institutional repository

The Learning Center of HIOA identified that other than peer-reviewed articles and master or PhD theses, there are lots of materials like conference presentations, lecture slides, streamed/taped lectures, bachelor theses, non-reviewed articles, chronicles, images, and so on that are till beyond any preservation. The faculty members of different faculties have lots of materials and they are preserving it by themselves in a scattered way. There is no single system in exist that can provide a secured space to preserve these materials for long term preservation. In addition, users of these materials do not know a specific place where they can find all of them together. For example, a senior professor with all his knowledge and resources available with him/her, is an asset of HIOA, may retire after some days, and only s/he knows where the materials are. When s/he left the HIOA, s/he unwillingly took all the intellectual output that s/he generated during her/his tenure. Sometimes, a new lecturer of the same course needs to start from the scratch. In a way, it could be said that HIOA is losing its knowledge. That is why the Learning center feels the necessity to launch another institutional repository named "Fagarkivet" using DSpace (a free and open source software). It will be a publishing repository, containing everything the employees at HIOA has produced themselves, and wish to have online access too.

4 Aim

The aim is to launch an institutional repository named “Fagarkivet”, which is going to be a publishing repository, containing everything the employees at HIOA has produced themselves, and wish to have online access. The faculty members will upload the documents/files themselves via the DSpace submission process. Therefore, they will be required to input all metadata themselves.

4.1 Objectives

1. To find out what type of materials the faculty would like to put in this repository.
2. To identify the required qualified Dublin Core metadata for DSpace. It is important the metadata schema cover all the different file types discovered in Objective 1, while at the same time it is not too complex for the employees to enter data into.
3. To identify sorting and ordering the metadata fields into pages, with labels of explanations for the employees.

5 Methodology

This study used a qualitative approach as it aimed to identify what kind of materials the respondents have, and their present activities to preserve these materials and insight opinion about the forthcoming institutional repository.

5.1 Data and data collection techniques

In this study, a semi-structured face-to-face interview method has been used for the collection of data. Moreover, the study gains imminent of respondents’ opinions, feelings, emotions and experiences, which are more achievable through qualitative approach. It is assumed that the participants in the interview could bring up some issues that were not asked for in the questions, or could make a good contribution due to their own experiences of how they face challenges in preserving their own materials for a long time or frequent use.

At the beginning of the interview, the respondents were informed about the aim and objectives of the said institutional repository. Some additional background about the necessity of such kind institutional repository has also been described. The interview questions were open-ended typed. The respondents were asked the following five questions:

1. What kinds of materials do you like to keep and share in an institutional repository? For example, non-peer reviewed articles, class lectures, notes, presentation, etc.
2. What kinds of materials do you like to preserve for a long time or for archival preservation?
3. What kind of descriptions would you like to see in the user interface or when it is presented to you?
4. What kind of policy like access, uses, etc do you like to have in the repository? For example Open or close access?
5. What kind of measures should be taken by the HIOA for the promotion of this institutional repository?

Some supplementary questions have also been asked during the conversation based on the flow of the interview or sometimes to get more clarification from the respondents. The respondents involved in the study had freedom to suggest anything they considered relevant to the study. All the interviews were recorded with the permission of the respondents.

5.2 Sampling methods

A number of faculty members have been contacted through e-mail to be a respondent. Based on their reply and availability seven personnel have been interviewed. The respondents represented the faculty of Engineering (two persons); Department of Archivistis, Library and Information Science (one person); Department of Esthetics (three persons), Department of Journalism and media studies (one person)

5.3 Data Analyzing

The method for analyzing data is narrative and discourse analysis. This approach helped to analyze qualitative data relies on the assumption that human experience is shaped, transformed and understood through linguistic representation. It is far more than merely analyzing the words, but analyzing the words based on a shared understanding of form, structure and meaning.

This report has quoted the most significant utterances in unedited form and other utterances have been included in edited form as supportive evidence. All data gathered from respondents' interviews has been transcribed as precisely as possible to get the whole picture of what happened during the interview and thus minimized the chances of the analysis being

biased. After transcribing all interviews, the study has categorized of issues in the text in relation to objectives.

Other than these, meticulous literature has been reviewed to identify what practices are going on for the same kind of institutional repository worldwide. In addition, based on the list of institutional repositories who are using Dspace software have been explored to see metadata practices in real life and their submission interface design.

6 Analysis and discussion

The respondents were asked five questions as mentioned earlier. Some supplementary questions were also asked while the conversion was going on. The responses from the respondents are grouped into various categories or issues and sub issues based on objectives of this report.

6.1 Present practice

It is found that the respondents are publishing their non-peer reviewed materials by themselves, but in a scattered way, for example, Respondent # 2 informed,

“We teach courses, the course materials are published on course pages on the web, some teachers use the system frontiers... frontiers is a closed system”

They are also using diverse location and software to publish their materials, for example, respondent # 2 mentioned,

“Most of us put our things on the internet... maybe we will do both I mean publish in our own pages and we want as many as possible to read but it will depend how much it will use.”

The respondent wants that the materials should be read by as many as people as they need. They do not want to put any bindings on sharing non-peer review articles or documents.

6.2 Necessity of institutional Repository

The respondents felt that there should be an institutional repository where HIOA faculty could put their materials like conference presentation, lecture slides, streamed/taped lectures, etc. as well as bachelor theses, non-reviewed articles, chronicles, images, and so on, for example, respondent # 1 stated that

“Most of us make materials and want whole world can read it. So, we publish it on the web. But, for causes people from other branches of this university, from other universities in Norway or also abroad will not find it. Because these are not organized, they can search the Google and find it among various other types of materials and subjects but not in an organized way”.

They also liked to see people from all over the world can read what they put in the repository, for example, respondent # 5 informed,

“It is a good idea to have them all together”.

And respondent # 2 mentioned,

“... I think that would be a good thing to publish materials that are in scattered ways”.

The respondents put emphasis on the establishment of the institutional repository that allows non-peer review materials. In addition, preserving syllabuses, lectures for long period is valuable, students and instructors can go back to see differences among previous years. For example, respondent # 1 informed,

“I think the way we are working, teaching technical courses and we think very much that they probably not have the material in different period to compare. So more organized system is perfect, I think it is important to share.”

and respondent # 4 pointed out

“This kind of work (institutional repository) would be really great and needed”.

6.3 Unorganized, but important materials

The respondents gave importance on materials that may be used as a reference after a couple of decades. For example, respondent # 5 mentioned,

“An assistant professor who used to teach ethics, he left behind a lot of materials, paper, old newspaper pages so in physical condition, he did like that and he left a lot, but its history ... it is important history, it is about ethics and different cases from may be 10 , 20, 30 years back in time and so and so. So, these things should be in such a place”.

Preservation of non-peer reviewed materials is essential in the opinion of the faculty members for example, respondent # 4 informed,

“We have something databases actually, but they are on the server special server here “tiva”, I think that is special for us”.

The respondent has some special databases because of collaborative work and for sharing them publicly. However, author’s permission should be taken into account, as well to feel more comfortable with it.

6.4 Types of materials

The respondents have traditional types of documents. However, regardless of that some of them have different kinds of materials than others as well, for example, respondent # 1 informed,

“I have published in pdf, PowerPoint, JPEG. I use google docs for my own web page”. Respondent # 5 informed, “We have cases here ... but, those teachers they were not digital ... so everything disappears”

and respondent # 2 informed,

“We publish in either in html or in PDF, by law, we cannot publish in word”.

In addition to lecture notes, some clarifications of textbook are necessary for students. Sometimes, this clarification is done by the respective faculty member, and s/he likes to make it available for all other students too, and may reuse for next time. For example the respondent # 2 informed,

“We clarify materials on the textbook that is the students are feeling very difficult to understand, then we often make additional notes to make it clear, and of course, most students like notes of course in Norwegian. But almost every textbook we have is in English”.

Moreover, beside traditional materials, the respondents mentioned about preservation of images of materials that have been shown in an exhibition by the students or faculty members. For instance, the respondent # 6 informed,

“It would be PowerPoint presentation, PDF, even documentation of student activities, like syllabus, course curriculum ... our students do exhibitions, and the rest of the class program, but we do not have documentation on this. So, that would be main focus”.

In this case, descriptions of the same materials are important, for example, respondent # 6 stated,

“It would be imaged and a little bit of text in some”.

The majority of the respondents agreed that the selected pages of Newspapers are considered as important materials for the repository, for example, respondent # 5 informed,

“New case like 22 July, I think it may be those newspaper pages would be in such a place”.

In addition, the video and audio of internal and external lecturer’s presentation or works and students’ project are very important as mentioned by respondent # 7,

“... PDF and images are very traditional format. Other than these, video and sounds”.

Moreover, some respondents emphasized on preservation of software that are built by HIOA faculty members or students as open source as respondent # 2 informed,

“The bachelor projects made by students here, very often contain software ... and probably be interest on other... in case of software developed in here that would be possible” .

Reports are also considered, as respondent # 5 informed,

“ ... I have a couple of reports that would be nice to put in such a place”.

Simultaneously, respondent # 7 informed about the images, activities, and news of a student’s exhibition as one of those as uttered

“I want to install access to students’ exhibitions to help the activities in master level”.

The respondents liked to preserve conference proceedings or related materials. Moreover, they emphasized on the importance of non-peer reviewed articles, for example, respondent #1 informed,

“My lectures, presentations, are open to use, probably given presentations in conferences in Norway, which out of available could be interesting”

The respondent indicated that lectures, presentations, guest lecturers’ materials, presentations given at various conferences now is accessible only on his own web page, but preserving all of them in one place sounds good idea. Respondent # 3 informed,

“Lecture notes and exercises for students”.

At the same time, the respondent was eager to keep course syllabus and to share as much as possible. Having one place that permits to find and search everything much easier is a good idea for him. Respondent # 4 informed,

“Ceramics, we use manuals, but students want to use in combination with pictures with written text or certain/circle things and ... it is not static ... We have the frontier system. They could put in the frontier system, but that also rather closed.”

According to respondent # 4, the concerned department is using pdf, PowerPoint presentation, html, pdf documents and do not have many videos, but the number may increase soon. The department has a lot of images and likes to put them all together.

6.5 Archival preservation

The respondents like to put their materials as archival preservation as respondent # 5 informed,

“...In addition to the thesis and such things, we do record artist as part of the study and they do a lot of things that are relevant and interesting to use in other connections and I think that could be an idea to try to have this systemized and to have that student work in the database accessible for us. That could be a record for history and then you could go back and see to identify what students produce in 2005 and so on it could be nice.”

Sometimes, it is vital to go back to see what they did on the same course/program couple of years back, for example, respondent # 2 stated

“Very often when a student takes part in a course and that course is part of another education, then they have to verify what was the course five years ago and that lost, then the system is very useful”.

It will be also helpful for graduates who need to confirm their course syllabus after their graduation for further education. On the other hand, Respondent # 2 informed,

“... Teaching materials do not last as long as like 10 years, specially within computer science where I work materials are five years or too old and we need to renew our materials every second year”.

It is clear that not all the teaching materials might be of interest by the faculty members for long-term preservation. In the proposed institutional repository, emphasis should be given for the quality check for the long-term preservation, for example respondent # 4 informed,

“I think if you preserve for a long time ... it can be up to the teacher to decide what to have in a long term ... built a system that has some sort of quality control on what we want to preserve for a long time”.

6.6 Guest lecturers materials

Guest lecturers are very often welcome as experts on a topic. Sometimes the audio or visual recording of the lectures has been made and preserved by the concerned course teacher. Sometimes, these lectures or class presentations or papers of guest lecturers, may be reusable in the following years or the students may like to consult the same frequently during the entire program. It is clear that the contents of guest lectures are useful when it is available with other materials for the same course. Then it is strongly necessary to find a common place to keep these, for example, respondent # 1 informed,

“... If guest lecturers hoped; so, it should be there. How content should be used, agreeing with the lecturer, I think this will be very good for my course...”

The respondent also considered licensing issues regarding guest lecturers' materials.

6.7 Bachelor thesis

Currently, the ODA of HIOA is not preserving any bachelor thesis. However, these are also intellectual outputs and needed to be preserved. Some departments are publishing bachelor theses on the web in their own way without using any centralized system. He felt the need of a centralized system for bachelor thesis and emphasized that the whole college should be under one umbrella. However, he also identified the critical issues about copyright and right of organizations or industries who collaborates those theses, for example, respondent # 2 stated that

“Our bachelor projects are with we collaborate with industries and quite often, sometimes the industries said no, we cannot publish it because it contains secrets so we can have a paper copy and we cannot publish it on net but that's common that most bachelor projects cannot be published”.

Therefore, before publishing these bachelors' theses in institutional repository, there should be a formal agreement between HIOA and the organizations or industries.

6.8 Copyright issues

In case of an institutional repository, the copyright issue is the most vital one. In some cases, the class materials or study materials that are shown in the classroom are not permitted to digital preservations or share with others due to strict copyright and deposit policy. Sometimes, it is highly necessary to take permission from the author as respondent # 2 stated

“I teach about the images, and composition and history and all those things. .. I can defend to show them to students, but strictly it’s not legal to store these things because of copyrights... and also I am not allowed to make deposit of those materials.”.

6.9 Open Access or Close Access or both

The majority of the respondents emphasized on copyright issues related to materials that are not owned by the faculty members but using for class lectures. On the other hand, the respondent has emphasized about the preservation of those materials in close access between a number of people, but needs to ensure legal issues, for example, respondent # 2 informed,

“It should be as open as possible ... We publish now on the internet that is open to everybody. Most of us put copyright information at the bottom like creative common. I do not think there should be any kind of restrictions. It should also be searchable by google”.

The respondent stressed on the author or contributors’ choices of making any documents open or close access. However, the respondent was also aware about the use of visible information about copyright information or use of creative commons, etc, for example, respondent # 3 informed,

“I like open access to everything but for searching keyword I’d like something that is relevant for that material”.

6.10 Metadata Issues and format

The majority of the respondents likes to see traditional metadata fields. The respondent thought that for newspaper pages date is an important aspect for easy access to required materials. In addition, the majority of the respondents informed that they use a traditional format of documents that are easily available with package software like MS Office or Open Office or Adobe., for example, respondent # 2 informed,

“I do not think of any other than traditional”.

And Respondent # 5 informed,

“Newspaper pages in PDF and JPEG, no other format than traditional format for me”.

6.11 User interface

The majority of the respondents mentioned about the traditional interface to find and locate their materials. However, respondent # 5 informed,

“Usually arena keywords and sub divisional ethics, you can have subject classification ... it would be best to sort it out according to curriculum or according to the organization of different subject that we have”.

He put more emphasis on choosing and arrange of materials according to subject classification of the respective department or faculty. At the same time, he liked to see materials are sorted according to the curriculum or group of different subjects. Respondent # 1 informed,

“Traditional interface is enough for searching”.

6.12 Promotion of institutional Repository

If HIOA launches the proposed institutional repository, there is a need to promote and encourage the faculty members or students to put materials on that, for example, respondent # 5 informed,

“I think people need to be convincing at first stage”.

Besides, promoting the same it should be also widely informed to other universities or colleges in and outside Norway to maximize the use of it. The respondent pointed that the institutional repository should be liberal. Faculty members should be interested in it and could limit or extend wider access to their materials by themselves, for example, respondent # 2 mentioned

“... I want to use everybody to see everybody, see I am clever...”.

7 Discussion

It is clear that faculty members of HIOA have a number of non-peer-reviewed materials. They are publishing those in their own way due to unavailability of any centralized system.

However, they would like to share their materials in a centralized system so that could be read and used by others. They also like to see people from all over the world can read what they put in the repository. The respondents have traditional types of documents. The majority of the respondents informed about that they use a traditional format of documents that are easily available with package software. However, they also have some materials that are different than traditional ones. It is found that the respondents also like to preserve their own materials as well as guest lecturers' materials. In both cases, the copyright issue and required permission are highly considerable.

The respondents also put value on materials that may be used as a reference after a couple of decades. They are concerned about the loss of knowledge due to retirement or leaving of HIOA by faculty members. It is evident that this kind of loss should be minimized as much as possible. The majority of the respondents considered the proposed institutional repository as a vital one that can protect the intellectual loss in the end. The institutional repository should offer both open and close access and this option should be in the hand of the contributors of the materials. However, in all cases, the copyright issue should be properly addressed and negotiated in advance before publishing through the proposed institutional repository.

None of the respondents asked to any special interface other than the traditional interface for searching. The institutional repository should be liberal for submission of materials in the view of the respondents. There should not be any force to upload any documents. It should be the right of the faculty member to limit or spread wider access to their materials by themselves. The bachelor theses are welcomed by faculty members to be published in the forthcoming institutional repository. However, there should be some quality control before finally publishing those. In addition, formal agreement between HIOA and the organization or industries are needed as some of the theses or project may contain non shareable data.

Based on the conducted interviews, diverse types of materials have been found that are used by the different faculties. For example non-peer-reviewed publications: books, journal papers, dissertations for bachelor degrees, conference and symposium contributions, class notes, class lectures, presentations, audio or video of class lectures by internal or external teacher, course information, class syllabi, instructor's notes, reports on experiments, reports on research progress, statistical data, and information on research projects, teaching and research achievements, patents, media reports on faculty and staff members, web sites about

teaching and research activities carried out by faculty and staff members, and academic resource on the web related to research projects. Here is a list of document types:

Table 1: Types of documents

Document types	Remarks
1. Class lectures, Class notes, additional notes to clarify textbooks, instructor's notes, Course related documents (any)	Internal or guest lecturers
2. Course syllabi, handouts	
3. Abstracts, notes, outline, remarks	
4. Institution's/faculty/department's course catalogs	
5. Conference presentation and stream, Symposium contributions	
6. Exercise or assignments for students	Internal or guest lecturers
7. Assignments prepared by teaching assistants, or students	
8. Capture picture of ceramic art	
9. Images	Related to research
10. Images or Photographs	Related to exhibition/made by students or faculty members
11. Newspapers images	Journalism
12. Video stream	Internal or guest lecturers
13. Audio taped lectures	Internal or guest lecturers
14. Non-reviewed articles	Internal or guest lecturers
15. Interim and/or final reports to funding agencies	
16. Interview transcripts/Questionnaires	Research students
17. Sound recordings of interview transcripts	Research students
18. Models, software demonstration files	
19. Unpublished results from research projects (undergraduate/graduate/PhD student)	Close access and shared between concerned personnel only

Document types	Remarks
20. Thesis or projects prepared by undergraduate students	
21. Software	Open source and made by HIOA as part of a project or bachelor thesis
22. Software documentation	
23. Pre- prints of articles	
24. Working papers	
25. Institution's/faculty/department's alumni publications	
26. Media reports on faculty and staff members	
27. Web sites about teaching and research activities carried out by faculty and staff members	

7.1 File formats

Considering the document types and available materials, this report also consulted the Dspace (DSpace, 2011a) supported extension for file formats. Here is a list of file format that should be included while designing the institutional repository.

Table 2: file format

Description	Extensions	Description	Extensions
1. Microsoft Word	doc	11 HTML	html, htm
2. Microsoft Excel	xls	12 Text	txt
3. Microsoft PowerPoint	ppt	13 Rich Text Format	rtf
4. Microsoft Project	mpp, mpx, mpd	14 XML	xml
5. Microsoft Visio	vsd	15 SPSS Syntax File	sps
6. Adobe PDF	pdf	16 SPSS system file	sav
7. SGML	sgm, sgml	17 SPSS portable file	por
8. Photoshop	psd, pdd	18 Comma separated values	csv
9. Audio	au, snd, mpa, abs, mpeg, ra, ram, wav	19 Tab separated values	tab
10. Image	jpeg, jpg, gif, tiff, tif, bmp, png		

In addition, there should be accommodating of comprised multiple files, for example, a conference paper along with the overhead presentation delivered at the conference (Crow, 2006).

7.2 Metadata fields

Considering available materials in different faculty and departments, an extensive investigation has been done in accessible institutional repository built by DSpace software (DSpace, 2011b) through internet. Based on those the following Qualified Dublin Core metadata fields have been suggested for the forthcoming institutional repository:

Table 3: Metadata filed

Qualified Dublin core	Metadata Fields	Remarks
dc.title	Title	
dc.contributor.authors	Authors	A person, organization, or service responsible for the content of the resource.
dc.contributor.editors	Editors	
dc.contributor.advisor	Contributors	Use primarily for thesis advisor.
	Name of guest lecturer Creator for video	
dc.coverage.spatial	Spatial	Spatial characteristics of content.
dc.date.accessioned	Accession	Date DSpace takes possession of item.
dc.date.available	Available	Date or date range item became available to the public.
dc.date.issued	Issued	Date of publication or distribution.
dc.date.submitted	Submitted	Recommend for theses/dissertations.
dc.identifier.issn	ISSN	International Standard Book Number
dc.identifier.isbn	ISBN	International Standard Serial Number
dc.identifier.uri/fulltext	URI/Handle/full-text	http://hdl.handle.net/10361/621
dc.identifier.other	Other	A known identifier type common to a local collection.

Qualified Dublin core	Metadata Fields	Remarks
dc.description	Description	
dc.description.provenance	Provenance	The history of custody of the item since its creation, including any changes successive custodians made to it.
dc.description.abstract	Abstract	Abstract or summary.
dc.description.version	Version	Preprint/post-print/new version number
dc.description.sponsorship	Sponsor/funding body	Information about sponsoring agencies, individuals, or contractual arrangements for the item
dc.identifier.citation	Citation	Bibliographic citation for works that have been published as a part of a larger work, e.g. journal articles, book chapters.
dc.language.iso	Language	En/No etc
dc.type	Type of document	Book chapter/conference presentation/class note/
dc.type.publicationtype	Type of publication	Refereed published journal paper
dc.publisher.faculty	Faculty	Name of Faculty
dc.publisher.department	Department	Name of
dc.publisher	Publisher	For non-peer reviewed articles/books
dc.relation.ispartofseries	Series name	
dc.subject	Subject Heading	Controlled vocabulary/keywords
dc.format.mimetype	mimetype	MIME (Multipurpose Internet Mail Extensions) type identifiers.
dc.format.extent	Extent	Size or duration
dc.format.medium	Medium	Physical medium
dc.relation.haspart	haspart	References physically or logically contained item
dc.relation.isversionof	isversionof	References earlier version
dc.relation.hasversion	hasversion	References later version
Appears in collections		
dc.right	Copyright	References terms governing use and reproduction

Other than these, there are other fields that need to be identified as either a separate field or merged with any above-mentioned fields is required, for example for images Height, Width, Pixel, Materials used (Oil painting/water color painting/ceramic/ support surface/ sand/clay/paper/ glass/wood /walls) and camera's description; course name, course number, course teacher's name.

8 Recommendation

1. There is a need of the proposed institutional repository. It would be nice to implement the same as early as possible.
2. Dspace software should be considered in building the institutional repository as the Learning Center is already in use of the same.
3. There should be clear identification between ODA and proposed institutional repository 'Fagarkivet' in purpose, and interface design to minimize the confusion of using both and maximize the use.
4. To simplify content deposit and encourage faculty participation, the institutional repository should accommodate a wide range of document types popular with various academic departments. The minimum required document types have been mentioned in table # 1.
5. The repository should be able to accommodate a variety of digital file formats, including widely used formats. The minimum required formats have been mentioned in table # 2.
6. The institutional repository should offer a good number of metadata field as there are different types of need and description addressed by various departments. The minimum required Qualified Dublin core metadata fields have been mentioned in table # 3.
7. As a matter of fact, in building the repository in the first place, the Learning Center should understand the college community very well and categorize them into groups and individuals and approach them differently.
8. There are individuals who normally create many non-peer reviewed document. The Learning Center needs to get them on board by initially targeting them and explaining the importance of the repository.

9. Starting with inputs of high profile individuals (senior professors) in the repository will find fast recognition among the others who matter as far as policy issues are concerned.
10. The Learning Center should also generate flyers about the repository and provide training on how to use the repository.

9 Conclusion

It is becoming ever more important for libraries to provide the variety of contents and services that Institutional repository plays an important role in delivering. More and more users are taking advantage of what IRs has to offer. The Learning center of HIOA proposed a timely though about building IR for non-peer reviewed materials. However, the learning center needs to be aware of the different characteristics and approaches required compared to peer-reviewed institutional repository.

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