BUILDING A REPOSITORY INFRASTRUCTURE FOR FINLAND
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Introduction

Institutional repositories have a fairly long history in Finland. The first repositories were founded more than a decade ago, and currently almost all of the Finnish universities have at least some kind of repository with variable amounts of content. Last year the Ministry of Education granted funding for a new project which aims to improve the existing national repository infrastructure. In addition to the development of technological infrastructure the project also deals with copyright issues connected with the self-archiving of research articles.

From e-theses to OA mandates

The development of institutional repositories in Finland originally started out in the late 1990s. Although terms like "open access" or "institutional repository" were not yet widely used, much of what was created at this early stage was of lasting influence.

At first the publishing activities mostly concentrated on doctoral and graduate theses. As the number of doctoral dissertations was growing rapidly year by year, the publishing and printing of them was eating up an increasing amount of resources, and this was making it harder to get anything else published. Digital publishing was seen as a way to save resources by decreasing the number of printed copies of dissertations. After some initial hesitation it became obvious that the digital theses should be available without charge in the open Internet so that their dissemination would be maximized.

The early adopters of these policies included several Finnish universities: University of Jyväskylä, University of Oulu, University of Helsinki, University of Tampere and Helsinki University of Technology all started their publishing programs for digital theses in the late nineties or just after the turn of the decade. All of these universities had their own policies and technical solutions, and there was a lot of variation on the practical issues. In addition to theses, some of these universities also published serial publications.

The ideas propagated by the international open access movement began to gain foothold in Finland a few years later. The Finnish Open Access Working Group (FinnOA) was founded in 2003, and it had an important role both in creating awareness on these issues and also advocating the creation of open access policies especially on the national level. As part of this development the Finnish Council of University Rectors signed the Berlin declaration in May, 2006.

Although many universities had already had some kind of open access publishing activity for several years, the impact of the open access movement extended beyond a mere adoption of new terminology. There were new open source technological platforms like DSpace, which slowly started to replace the older locally-developed publishing systems. The open access movement also brought along the idea of self-archiving research articles to an institutional repository to ensure their open availability. Self-archiving was seen as a novel and exciting idea, but as in most of the other countries, the number of self-archived articles actually deposited to Finnish repositories remained extremely low for several years. In practice it turned out to be very difficult to motivate researchers to deposit their articles as long as it was voluntary.

In May 2008 the University of Helsinki made a decision to impose a self-archiving mandate on its researchers. The mandate will be in effect starting from January 1, 2010.[1] This was the first open access mandate in Finland, and what made it even more important was that the decision came from the oldest and most prestigious university in the country. Although the rector's decision initially received surprisingly little public attention, it is becoming apparent that it has changed the playing field rather dramatically. So far the University of Tampere is the only other university to decide on a mandate (and it can be argued that this decision, with less strict wording than in Helsinki, is more accurately described as a recommendation than as a proper mandate)[2], but there's a growing pressure on all of the Finnish

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[1] See Marjut Salokannel: University of Helsinki opens its research vaults: a few words on open access and the new research environment in Finland. ScieCom Info, Vol 4, No 23 (2008). URL:
http://www.sciecom.org/ojs/index.php/sciecominfo/article/view/653/447

[2] This has been argued by Stevan Harnad: Correction: U. Tampere Policy Merely A Request, Not A Mandate. Open Access Archivangelism, August 27, 2009. URL:
http://openaccess.eprints.org/index.php?/archives/622-Correction-U.-Tampere-Policy-Merely-A-Request,-Not-A-Mandate.html

universities and also research funding agencies to adopt similar policies. Of course, many universities are probably waiting to see how well the mandates of Helsinki and Tampere will work out in practice.

Developing new practices and infrastructure

The Finnish Ministry of Education has provided funding for a two-year project (2009-2010), which supports the building of a national infrastructure for institutional repositories. The project consists of three sub-projects, which are each run by one of the three partner-organizations: The Helsinki University Library concentrates on creating practices and workflows for self-archiving (with special attention to copyright issues), the National Library provides ready-for-use repository infrastructure and technical solutions for Finnish DSpace-based repositories and the Oulu University Library documents its experiences in choosing a new technical platform for its own repository. In addition to these aims the project also promotes co-operation between repository managers and developers and the adoption of common policies and practices on the national level. These national solutions should, of course, be compatible with the international best practices.

The sub-project run by the Helsinki University Library is closely connected to the forthcoming OA mandate of the university. As part of the preparations for this mandate, the University of Helsinki has started negotiations with the leading scientific publishers in Finland. The publishers are encouraged to define their self-archiving policies, which the library will then submit to the international Sherpa/Romeo database. This will benefit all of the Finnish universities, and to some extent, also universities in other countries as well. There are also plans to create a handbook (or an openly-accessible wiki) on copyright issues related to self-archiving. Uncertainty over copyrights and publishing agreements seems to be one of the most common stumbling blocks for individual scholars wishing to deposit their articles to a repository.

The sub-project coordinated by the National Library of Finland concentrates on technical and metadata issues. The National Library has a long tradition of providing centralized IT-services for the Finnish library network. The library has already introduced two DSpace-based repository services, Doria and Theseus. Doria (https://oa.doria.fi) was originally launched in February 2007, and it currently contains more than 40 000 items from several institutions (not all of them open access, though). The National Library provides the technological platform and each of the customer organizations takes care of the management of its own collections and publications. The development of Theseus (https://publications.theseus.fi) started out in 2008,

and it will be the common repository for all of the 26 Finnish universities of applied sciences (*yrkeshögskola*). At first stage it will contain all of the graduate theses accepted within these organizations, but there are plans to expand it to include other materials (including self-archived articles) as well.

With the project funding the National Library continues the development of its centralized repository platforms and also develops open source technical solutions in co-operation with other DSpace-based archives. The first development project was a new statistics tool for DSpace. The first version of the Simple Stats tool was completed in April 2009, and it is currently in use in several repositories (you can try it here: https://oa.doria.fi/simplestats/front). At the moment the National Library is developing a new modular ingest system which works outside of DSpace and will hopefully make it easier to create new workflows for each organization and ingest process. The ingest system will be compatible with the forthcoming DSpace version 2.0, which is expected to come out in 2010.

Challenges for the next few years

In her already-classic pamphlet, "Innkeeper at the Roach Motel" Dorothea Salo paints a rather gloomy picture of the state of the institutional repositories.[3] Much of what she says applies to the Finnish situation as well. Most of the existing Finnish repositories have been built more or less on a shoestring budget, and they have often been short on resources and proper institutional support. Although institutional mandates may be giving new attention to the needs of repositories, their long-term sustainability and development is still an issue.

This brings us to the question of organization. It is obvious that by combining and sharing the resources between organizations it would be possible to build stronger repositories with adequate resources behind them. This has been the idea behind the National Library's centralized services all along. On the other hand, there has also been quite a lot of discussion on how much centralization is really needed for institutional repositories - what could and should be centralized and what would be best done on the local level.

In addition to the centralized services offered by the National Library Finland has a network of other repositories that are being run locally on a university level. Like Doria and Theseus, many of these repositories are based on the DSpace software, but a

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[3] Dorothea Salo: Innkeeper at the Roach Motel. Library Trends 57:2 (Fall 2008). Available at http://minds.wisconsin.edu/handle/1793/22088.

few of the older ones have their own locally developed technical platforms. Some of the universities have had their own repositories and publishing systems for many years, and they are not necessarily very keen on replacing them with a common national repository, even if it might make sense from a purely financial point of view. However, the fact that many universities are likely to have their own locally-run repositories even in the future doesn't rule out the need for co-operation.

Of course, the concept of institutional repository as we know it at the moment is not fixed in stone and it is likely to evolve over time. Already there's a lot of pressure to get the repositories better integrated with other university-level systems and services. These include Current Research Information Systems (CRIS) and Virtual Learning Environments. This means that the repository infrastructure - whether local or centralized - must be flexible enough to adapt to these demands. As far as possible, the technical interfaces between different systems and modules must also be built on commonly-used protocols instead of ad hoc solutions. There's a lot of work to be done, no matter who is going to do it.

From the Finnish perspective, another important challenge for the repositories is the currently ongoing organizational upheaval in the Finnish university system. The legal status of the universities will change in 2010, and there will be several mergers and new strategic alliances between the universities. This is likely to have an effect on several of the currently operating repositories. Although there's some uncertainty over how things will work out, these changes may also provide new opportunities for co-operation and the building of an improved repository infrastructure for the Finnish universities and research institutions.

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