

# **National Collaboration and Dissemination: The development of an e-theses based Institutional Toolkit as part of the JISC funded 'EThOS' project.**

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## **ABSTRACT**

As part of the JISC funded 'Electronic Theses Online Service' (EThOS) project, The Robert Gordon University in partnership with Cranfield University and the universities of Birmingham, Edinburgh and Warwick are undertaking a workpackage to develop an e-theses toolkit.

The aim of this work is to provide support for the set-up of an e-theses system within an individual institution and then further this to include the integration with the British Library UK-wide prototype online theses service.

The start-up e-theses toolkit for institutions will provide recommendations, guidelines and, where necessary, minimum requirements for the following:

- Hardware for storage and delivery
- Software (DSpace, EPrints, others) including staff time / skills level
- Metadata
- Standards for linking with central host
- Digitisation
- Workflows for processes within the institution and for deposit in central host, including business models
- Advocacy, including culture change and the updating of institutional regulations
- Procedures for IPR, royalties and permissions
- Preservation
- Advice on training authors in creation of e-theses
- Support network (mentoring institutions, useful contacts etc.)  
recommendations for sustainable support and development of the toolkit

This paper aims to provide information about the development and content of the toolkit and will emphasize the issues associated with this nationally coordinated approach. Methodologies and the selection of appropriate channels and media for dissemination shall also be addressed.

## **1. INTRODUCTION**

### **1.1. The 'Electronic Theses Online Service': a Project to Support E-Theses for UK Higher Education (EThOS)**

Mindful of the developments concerning national ETD systems in other countries, funding has been secured from JISC (the Joint Information Systems Committee of the UK) to run an 18 month project from January 2005 to June 2006 to develop a working prototype national e-theses service (EThOS). EThOS will deliver a fully operational, easily scaleable and financially viable prototype UK e-theses online service, and supporting infrastructure, that will enable students, researchers and other end-users to search a UK Database of Theses (UKDoT). It will also allow end-users access from the desktop to the full text, in secure format, of electronically stored theses, following selection from the UKDoT. In addition it will enable Higher Education institutions, in partnership with the British Library (BL), to promote and increase usage of their theses output. This project partners are The University of Glasgow (lead institution), The British Library, Cranfield University, The National Library of Wales, The Robert Gordon University, SHERPA (a consortium led by the University of Nottingham), The University of Birmingham, The University of Edinburgh, The University of Southampton, and The University of Warwick.

Key issues to be addressed in this project include:

IT Infrastructure, including interoperability between the various platforms amongst the individual institutions and central host at the BL, interface design, and metadata; rights and permission procedures; dissemination and advocacy; and business models, including an aim to make the service free at the point of use, and funding for retrospective digitisation.

### **1.2. E-Theses Institutional Toolkit**

EThOS is a multi-faceted project requiring a variety of methodologies across its eight workpackages. One of those workpackages is the creation of a start-up toolkit for institutions, including guidelines on software and other IT aspects, workflows, rights and permission procedures, and recommended best practices. This workpackage is being lead by The Robert Gordon University, in partnership with Cranfield University, The University of Birmingham, The University of Edinburgh, and The University of Warwick.

## **2. OBJECTIVES**

The EThOS project combines a wide number of contributing institutions and as result there is an inevitable overlap amongst the workpackages and their contribution towards the project aims and objectives. Of the 5 main objectives set out in the project plan, the Institutional Toolkit (Workpackage 6) is primarily associated with objective 3:

“The development and implementation of a dissemination and advocacy programme targeted at all key players in the production, submission, storage and dissemination of theses, in particular:

- a) Academics and senior university administrators whose involvement is crucial to secure a revision of submission procedures.
- b) Information professionals in Higher Education Institutions (HEIs) wishing to set up their own e-theses management system within the framework of the UK e-theses online service.”

Workpackage 6 members have been working closely with members of the other sections, such as those developing interfaces and the central host, and thus there is also a significant amount of work and issues that are shared with objective 1:

“The development and implementation of a hybrid IT infrastructure combining:

- a) A central host, to be based at the British Library, for HEIs wishing to have their theses stored centrally, whether for dissemination or preservation purposes, or both.
- b) Interfaces for the British Library to harvest the necessary data and metadata for the online supply of theses that are stored in institutional or consortial repositories only. (Note that in this context a consortium is a group of institutions sharing one e-theses or e-prints repository.)
- c) A single search interface of all e-theses repositories enabling users to search all theses indexed in the UKDoT and to access all electronically stored theses from one point of access whether they are stored on the central host or in institutional repositories.”

### **3. METHODOLOGY**

During the initial stages of the project, a suitability study was carried out to examine examples of best practice amongst similar such toolkits and ‘cookbooks’. This was deemed beneficial to ensure that the Institutional Toolkit was constructed in a format that would allow the clear and structured presentation of information without limiting the design to purely static and non-interactive content.

After assessing a variety of CMS and Wiki software, the decision was made to base the Toolkit around Plone ([www.plone.org](http://www.plone.org)). The Open Source Plone software seemed the ideal solution for this project as it offers powerful groupware tools allowing for the submission and editing of content amongst a distributed, and collaborative, project and also as a base for dissemination and publication by providing a fully featured document publishing system. It is also already in use by JISC for similar such guides and dissemination purposes and a very established user community exists with strong links to educational use.

The latest version of Plone (v2.0.5) has since been installed on a development server at RGU to allow for the structure to be finalized and then the subsequent addition of content. As the project progresses to a later stage, the content and structure shall be migrated to a more permanent home where it will be tested by project members and selected HE institutions to allow for any necessary additions and alterations to be made before finally going live sometime around June 2006.

The advice offered via the toolkit will cover a wide range of topics including recommendations, guidelines and, when necessary, minimum requirements for the following:

- Hardware; for storage and delivery
- Software (e.g. DSpace, EPrints) including staff time and skill levels
- Metadata issues and schemas
- Standards for linking with central host
- Digitisation procedures for retrospective digitisation of non born-digital theses

- Workflows for processes within the institution and for deposit in central host including business models (there will be a number of workflow diagram scenarios depending on the state of institutional development in e-theses and the different thesis submission systems)
- Advocacy issues; culture change and the updating of institutional regulations
- Procedures for IPR, royalties and permissions
- Preservation issues
- Advice on training authors in creation of e-theses
- Support network (mentoring institutions, useful contacts etc.)
- Recommendations for sustainable support and development of the toolkit

A selection of the above content is to be obtained directly from other workpackages such as IPR procedures and copyright guidance. This should ensure that a concise set of information covering all aspects of the project work is available to institutions by the end of the project.

A software toolkit shall also be incorporated within the Institutional Toolkit to assist with the sourcing and installation of recommended packages. This resource shall exist alongside the guidance content and will include software advice and downloads. These are likely to include links to the latest releases of recommended software packages to ensure a stable repository build utilizing the latest most stable and secure versions, and also additionally developed add-ons and plug-ins (i.e. for DSpace and EPrints) to interface with the national hub and ensure standardisation amongst repositories on a national level.

With only a small number of live, and prototype, theses repositories currently set up in the UK, it is essential that the use of a standard metadata set for theses is adopted by them, and new initiatives, to allow for future interoperability with the central host over the years to come from this crucial initial stage. For this reason a specific metadata set is being finalised. Based upon the UK Metadata Core-set (<http://www.rgu.ac.uk/library/guidelines/metadata.html>), that was produced as a deliverable of the JISC FAIR programme, this slightly altered schema will ensure compatibility with OAI and both EPrints and DSpace based theses repositories in the UK.

Issues of how to best format and present the actual content are still ongoing but it is likely that an ordered and interactive approach shall be adopted whereby institutions can work through a tailored workflow to help overcome specific barriers and issues on the route to creating their own e-theses repository or hybrid submission system. This is planned to be broken down into a logically staged workflow which closely mimics the perceived 'average' implementation process within an institution. Each stage shall contain help and guidance covering common problems and issues that have been identified as potentially problematic and thus slowing progress.

#### **4. OUTCOMES / CONCLUSIONS**

The e-theses institutional toolkit is fundamental to the success of the EThOS project as a whole, by providing the relevant information, key issues to consider and decision-making processes involved in the integration of an institution into the national system that the EThOS project is designed to deliver. A lack of knowledge of the issues listed in this paper is often one of the biggest impediments to an institution wishing to offer their theses online, but this toolkit will provide an extensive support mechanism to alleviate this. Such support is essential if the EThOS project is to provide an operational system involving a critical mass of UK theses from relevant institutions.

The following selected, and perceived, outcomes from the project plan highlight the main benefits to the UK HE sector from the work of the Institutional Toolkit:

- The enabling of users to locate all UK theses via one single web interface and access all those available for electronic delivery (whether born-digital or digitised) from the desktop will dramatically increase the visibility of UK theses beyond the small number of theses that get published or are supplied by the British Library Thesis Service.
- The availability of a central host combined with a distributed operation will make it possible for UK theses, including those submitted in smaller HEIs without institutional repositories, to be electronically accessed and therefore widely disseminated.
- A one-stop-shop approach to accessing and viewing theses will reinforce the 'UK Thesis' brand, thus giving greater exposure to the UK research output - of which theses are an essential part - both domestically and internationally.

With the support mechanisms provided by the toolkit, the EThOS project will fulfil its aims to deliver a working prototype of a UK national e-theses system within the projected timescales. Each institution will be able to identify issues that require consideration which are relevant to them, as well as receiving necessary support, resulting in an e-theses system which is genuinely national in coverage.

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