

ETD Workflow and Training at l'Université Laval (Québec, Canada)

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Abstract

The Université Laval ETD Collection has officially been launched in 2002 after years of preparation and studies. Our collection is using the etdms schema and is OAI compliant. It has been set up through an exemplary partnership between the Library and The Faculty of Graduate Studies. The Graduate students involved in our ETD project are using an MS Word model (.dot), developed in conformity with the typographic rules set up by the Faculty of Graduate Studies. Representatives from both units spent quite a bit of time discussing the training issue and the adequate form of workflow. Pedagogical tools were designed in order to help students to use the MS Word Model properly and some enhanced functionality of the software. During 2002, more than 200 doctorates students participated in training sessions held in a computer lab. This overwhelming success prompted us to develop an online version, using a WebCT platform. The training itself contains lessons, illustrations demonstrations and exercises. Various forms of assistance are available to participants (forum, mail). Our workflow involves an initial submission of electronic document which allows us to check the "convertability" of the student etd. At this point, we can spot problems if there be and ask the student to make adjustments before the final submission. The latter is being made only through an electronic format (the paper version of the thesis is not required).

In 2003, we began to support the LaTeX format and we plan to add an open source format (like Open Office). The ETD training is available to the Master's degree students since January 2003 and we are expecting a huge interest even though the electronic submission is not mandatory yet for all programs.

Introduction

Our ETD project at l'Université Laval was long in the making. But finally, the official launching ceremony has taken place on November 26th 2002.

During this presentation we will begin with some aspects of the "Workflow of the dissertation", at the Faculty and in the Library from the beginning of the process up to the Final submission and the Web publishing. Then, we will focus on the training of students, an essential point in the project since its beginning. We will conclude our presentation with some of the concerns we have towards the future. But first of all, let's start with a brief history of this project.

Project Overview (phase I)

Our Project has a long history from which a few important moments could be outlined:

- Sept 1997 The Library proposed a joint venture to the Faculty of Graduate Studies: To develop a project in which both instances would explore the possibility offered by electronic dissertations
- A few months after, we received a proposal from Université de Montréal for a collaborative project. Our first joint meeting was held at Université de Montréal on Feb 23 1998. 5 Quebec Universities participated to a few of these exploratory meetings.
- After analysing different scenarios, we agreed with the choice of SGML and TEI Lite DTD (Remember that XML was in its early infancy at this time)
- We then had day to day collaboration between Laval and UdeM in developing the first style sheet (Word) and the conversion scripts. We also prepared a guide for Word Style sheets and a guide for students participating in the pilot project
- Our Laval committee presented his final report during Spring 2000, this report was submitted to different groups and organizations across campus and was finally approved by the Graduate Studies Faculty Committee.
- Its implementation was postponed until the release of a provincial report by the Crepuq (a canadian inter-university organization) submitted in February 2001 recommending strongly to go forward with such initiatives. This report was also suggesting guidelines and procedures for those who were interested in such a venture.

To be honest our first experience was not conclusive. We realized we were not ready to implement such changes and that even the students themselves were not prepared. We weren't satisfied with our workflow. We wanted to implement the changes at the very beginning of the process. We felt we had to capture the work and especially the enrichment made by the students in their own etd, during their writing process. To do this we had to teach students how to work in a reusable manner:

Project Overview (phase 2)

Our first project wasn't conclusive also because it was perceived essentially as a Library project (an interesting project indeed but a Library project anyway). At the time, we had the support of the Faculty of Graduate Studies, as long as it didn't have too much impact on their own workflow. Things turned around with the arrival of a new administration more proactive with ETD. With this new administration a more intense collaboration between the Faculty of Graduate Studies and the library began.

In September 4, 2001, a full-time librarian was hired, who helped us in this endeavour. Initially only Doctorate candidates were invited but since January 2003, we are accepting master thesis.

The ETD Collection was launched officially in November 2002.

ETD Workflow

Beginning of the process

As we said, we wanted to implement changes at the very beginning of the process. To do so, we decided to help and teach students how to work in a reusable manner. To teach them, we have developed an online training on which we will focus in the third part this communication. To help them, we have created document models that they should use during their writings.

Document models rely on softwares chosen for the project. At l'Université Laval, we began with Microsoft Word. It is the software officially recommended by the University Normalization Committee for Technology and it is widely use by students. We made a style sheet which contains various users' style for each part of the thesis or dissertation (front matter, body and back matter).

The choice of Microsoft Word however didn't satisfy all the community, especially the scientific one, which, in many case, prefer to use LaTeX. So we decided to create another document model for it. We made a class for Laval ETD based on the report class document structure which is a standard in LaTeX.

For both financial and human reasons, it is quite impossible to satisfy all needs at once by creating document models for all software on a campus. We are trying to solve this issue by encouraging cooperation between Quebec and eventually Canadian universities. This initiative is still "in the making".

Initial and final submission

An all electronic submission and review on the Web is not yet available. But, in the longer run, we are looking at different scenarios in order to allow it.

In 2003, the Faculty of Graduate Studies accepts both initial and final submission of electronic thesis and dissertation. For the initial submission, printed versions are sent to each members of the jury. At the same time, the electronic version is examined, technically, by the library. The object of this examination depends on the software used by the students. As an example, with Microsoft Word the styles are controlled. The result is a short technical report sent to the student to help him to produce files conforming to our requirements.

Final submission is conditional to: a conformity with our style sheet and a mandatory participation in the training offered. After final submission, treatments for dissemination and archiving begin.

Dissemination

For institutional reason, priority had been given to the dissemination of the theses and dissertations. We are producing two diffusion formats: XHTML (eXtensible Markup Language) and PDF (Portable Document Format).

XHTML is the online consultation format. For an easy dissemination, we chose small XHTML files that are divided at the beginning of each higher level section. We used UTF-8 encoding because XHTML is based on XML and Unicode is the lingua franca of XML and, naturally, also because a dissertation often contains some foreign languages.

PDF is our printing format. It is the facsimile of the original document. Some enhancements are done by adding bookmarks and hyperlinks.

Although we first put our focus on diffusion formats we never forgot the archiving question. Our archiving format is the XML. In February 2003 we started to produce it. The XML format will have consequences on our diffusion workflow.

The XML format

First, we thought about creating an in house DTD (Document Type Definition) for thesis and dissertations, but we decided to concentrate our energy elsewhere and to wait for a satisfying international DTD standard.

The choice between the creation of a specific Document Type Definition (or Schema) or using an international standard is, in our sense, undoubtedly one of the most important questions concerning ETD projects based on XML (eXtensible Markup Language).

As far as we know, DTD for thesis exist already, but they were not created for a wide and international use. So we decided to use a DTD which is a recognized international reference, even if it is not specific to electronic thesis and dissertation: the DocBook XML DTD.

Our will is to produce ETDs conform and valid with DocBook, and eventually convert them, with an XSLT stylesheet, as soon as an official ETD Document Type Definition or schema is made available.

ETD Dissimination

The ETD Collection is accessible from an Internet site (www.theses.ulaval.ca). In March 2003, we had only 19 etd's. However, 200 students did follow our training sessions in 2002 and the online training is quite a success: 450 students connected in May, and we saw an increase of 60 to 70 students per month since February. This let us hope that our SYSTEM is viable and that our collection will grow significantly in the years to come. The ETD collection could be accessed through a simple search form (searching in full text) or through an advanced search form (searching in the in metadata).

We decided to participate to the Open Archives Initiative (OAI) as a data provider. We are using the architecture developed by OCLC: OAICat. The OAI is entirely based on XML and concern the metadata of documents. We are using the ETDMS schema from the NDLTD for our thesis and dissertation. We are not yet using a database to manage ETD metadata, but we are looking at it.

Using XML technology for metadata which are, to be brief, bibliographical information leads, in a library context, to the following question: how to deal with the library catalogue? How to integrate the ETD metadata to it? Could we develop an independent SYSTEM? That's another story however, far too wide and complex to be discussed here. For the moment, let's talk about another question, as large and complex: the training of students in an ETD project.

Training

What we believe

Here are the elements supporting our decision to concentrate our efforts on the training in our ETD project and made it mandatory:

- We believe graduate students should be familiarized with electronic publishing for academic purposes early in the process.
- We believe graduate students should be as well "information literate students" and should take charge (with our support of course) of their own familiarization with new technologies.
- We believe this familiarization should take place early in their academic training and be part of an "information literacy strategy" integrated in their curriculum.
- We believe graduate students will become "agents of change" in the whole process. Therefore, they should be at the forefront of any initiative regarding electronic publishing.

At l'Université Laval we decided to create Pedagogical tools (WebCT, etc.) for students, to help them writing their thesis or dissertation.

What we have done

First step: In house training

We developed a basic training to the proper use of Word style sheet. It was offered only to Doctorate candidates. Our first session was held in Feb 2002. It was very successful from the beginning. 200 students have participated in these one-day sessions. Many were at different stages in their writing process and so far a few have already submitted electronically.

The training itself was a success but the recurrent costs involved started to create a problem. Our computer labs were able to accommodate only a dozen students at a time and we felt that, in order to create a momentum, we had to keep these sessions free for a while. After 6 months the invoices were piling up so we decided instead to put in place an online training on the WebCT platform.

Second step: online training

Since January 2003, the online training is completed and is being used by both doctorate and master degrees students. It is based on our campus wide WebCT platform. WebCT, Inc. is a provider of e-Learning solutions for higher education. It is a flexible and integrated environment. WebCT's solutions include pedagogical tools with content management capabilities, options for personalization and customization of the learning experience.

For the moment, we are teaching students how to use our Style Sheet and some advanced Word Functionalities.

The online training has been developed in cooperation with the "Directorate for Distance Learning" at l'Université Laval.

In creating this training, we wanted to make a complete pedagogical tool, simple and clear, with all material (exercises, correction, and animation) and assistance by mail or forum.

SOME ADVANTAGES

Online training for ETD has much more advantages than workshops. For us, it was a less expensive way to organize and maintain the training. Concerning the content, the online diffusion makes the training more scalable. **Scalability** is a fundamental point. The object of the training (a software) imposes it. We are not only talking about versions of software, but also in terms of new functionalities that may appear and could be covered, if necessary, by the training.

In our sense, benefits of an online training are mostly for students themselves. They can follow the training by themselves, access it from home, even from distant cities, as many times as they want, and thus, follow the training at their rhythm. This leads us to another important aspect of online training: **help and support to students.**

The training is mandatory and students are free to do it at their convenience. For those reason, we decide to pay a specific attention to the help and support. At any time, students can ask question on a forum or by mail to the training manager (teacher is not completely appropriated). The answer should be given in the 24 hours.

SOME LIMITATIONS

The main limitation of an online training is: how to monitor students during their training? This is essential if the training is mandatory. We must know what the students are doing or not do, are looking at or not look: how many times they have been connected to the training? What pages they have seen? We must have means to answer those questions. At l'Université Laval, our SYSTEM uses the concept of sessions which simplify the production of statistics.

However, as relevant as the information may seems statistics from Internet should be taken and interpreted with a lot of precautions. During the initial deposit, a verification of the documents is done and a report is send to students to inform them about changes or adjustment that they should or must do before their final deposit. For the moment, we have not encounter real problem with the use of style.

Conclusion and Future Orientation

Even if we have made more than a step forward since September 2001, many developments are still required at l'Université Laval concerning all the aspect of the ETD project: the training, the deposit, the collection.

The training

Training students in all ETD project based on structured document is fundamental, but is quite difficult to assume for a single university. Training supposes a lot of investment in term of development, support and so on. That's why we try to encourage, in the province of Quebec, co-operation between universities who want to invest in an ETD project. This cooperation may take many forms but it could begin with sharing knowledge, tools, documentation, etc..

ETD collection

Concerning the library, the beginning of the production of the XML version of ETD will have many consequences in our archiving and diffusion workflow.

Metadata management will be one of our priorities in the months to come. We are planning to use a XML database.

We will also try to encourage cooperation between universities concerning the ETD development in Canada and we will engage ourselves in all projects that are going in this direction. For example we are working with the Canadian National Library to define the electronic submission Workflow for electronic thesis and dissertation.