# Lithuanian ETD Project

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## ABSTRACT

The primary goal of the Lithuanian ETD project is, further to the global experience, accumulating the electronic documents of the final papers of Lithuanian master's students, doctoral dissertations and their summaries (ETD) creating the Lithuanian ETD Information System (IS). The goals of creating this system correspond with the goals laid out in the international project "Networked Digital Library of Theses and Dissertations" (NDLTD).

Lithuanian ETD project was initiated by the Association of the Lithuanian Academic Libraries Directors. The project was started to be implemented as part of the national project "Lithuanian Academic Libraries Network" (LABT).

The performance of the Lithuanian ETD project was strongly influenced by the project financed by UNESCO "Lithuanian ETD Project as Pilot Project for Baltic States", which was approved by rectors of 14 Lithuanian universities and 1 Latvian university. This project at the same time was being implemented as the Lithuanian ETD pilot project. Currently there are 12 Lithuanian and 1 Latvian university storing their ETD's in the Lithuanian ETD IS. There are already approximately 1400 ETD's submitted to the repository and their metadata stored in the Lithuanian ETD catalogue with the possibility to be harvested into NDLTD Union Catalogue (UC).

In the beginning of 2005 there were approved 3 projects financed from the European Union (EU) structural funds for the creation of the Lithuanian academic e-publishing system whose prototype is considered to be the currently functioning Lithuanian ETD IS. Among the objectives of those projects one is to integrate the Lithuanian ETD IS into the Lithuanian academic e-publishing system.

## 1. INTRODUCTION

The LABT (LABT, 2005) project has been started in 1998 and in the beginning of 2005 it joined 57 libraries in various academic institutions. The processes of those libraries are automated by using library software ALEPH 500. The user may perform the search of the publication in the e-catalogues via internet, and, upon finding the desired publication, to take advantage of the offered services, for example: to book the publication, find out when the desired publication will be available, to obtain information about user status, etc. The

publication, however, in most cases is in the form of a hard copy and the user should take it or use it at the library. Whereas, most of the users would prefer to read publications at the time and in the way that is the most convenient for them – at the work place. Fast and convenient access to the research literature and information improves studies, research and communication. Therefore, in 2002 the feasibility study of the Lithuanian academic e-publishing was started. A group consisting of librarians, publishers and IT specialists was formed for this purpose. Third version of the feasibility study (Kuciukas, V., Abramcikiene, R., Butkeviciene, B., Duobiniene, G., Jauckojis, J., Jurgutis, M., Kretaviciene, M., Labasauskas, V., Sadauskas, V., Streimikis, A., Targamadze, A., 2004) prepared by the expert group became the basis for the preparation of Lithuanian academic e-publishing project group (3 projects) to be financed from the EU structural funds in 2005 – 2007. These projects of the total 3 years duration anticipate the creation of the IT infrastructure of e-publishing, preparation of the technology solutions, tools and environment of the preparation, accumulation and presentation to the users of e-documents, conduct the training of the target groups, and to start the preparation, accumulation and presentation to the users of e-documents.

One of the more important Lithuanian e-publishing objects is the creation of the information system of the final papers of Lithuanian master's students, electronic documents of doctoral dissertations and their abstracts (further – Lithuanian ETD project). The creation of the Lithuanian ETD project is based on the experience and recommendations of the NDLTD. In 2003 there was prepared the offer of the project "Lithuanian ETD Project as Pilot Project for Baltic States" in order to obtain UNESCO support. This project was confirmed and implemented from 15 December, 2003 until 31 March, 2004. There were 14 Lithuanian university level schools of higher education and Riga Technical University from Latvia participating in it. The creation of the Lithuanian ETD project was started within the framework of this project. Further expansion and support of the Lithuanian ETD project is associated with the e-publishing projects supported by the Lithuanian and EU structural funds and with the implementation of the national program „Information technologies for science and studies" (ITMiS) which includes LABT.

## 2. GOALS

Goals of the Lithuanian ETD project essentially meet the main NDLTD goals:
- Improve university education by providing the master's and doctoral students with modern conditions for the creation of electronic documents, use e-libraries and understand e-publishing.
- Increase the accessibility of the research results stored in electronic form.
- Decrease submitting and processing costs of theses and dissertations.
- Enable students to convey their thoughts in more rich descriptions, which are realized through multi-media technologies.
- Motivate universities to give wider access to their treasures of research information.
- Use e-library technologies in more progressive ways.

At the same time, in the course of the implementation of the Lithuanian ETD project, there are more goals pursued, which are part of the projects financed from the EU structural funds:
- Developing intellectual potential of the society.
- Creating equal possibilities for men and women, representatives of various social groups to pursue higher education.
- Creating wider access to education services in regions (especially rural areas), reduce territorial differences.

## 3. PROJECT CONTEXT

Lithuanian ETD project is an integral part of the e-projects financed from LABT and EU structural funds, ensuring the preparation and accumulation of ETD's, prepared in the Lithuanian academic institutions, and their presentation to the Lithuanian and world academic community and later – to the society in general. The group of e-publishing projects financed from the EU structural funds consists of the following projects:

- "Development of the Lithuanian academic e-publishing system" – development of IT infrastructure, which will be used by the other two related projects.
- "Lithuanian virtual library and the creation of the full-text documents data base" – creation of the tools and environment for the preparation, accumulation and presentation to the users.
- "Accumulation and presentation to the users of the Lithuanian science and studies e-documents" – technology solutions, teaching, accumulation and presentation of e-documents.

Lithuanian ETD project is supported and promoted by the Ministry of Education and Science of the Republic of Lithuania. The Regulation concerning the development of the information system of the e-documents of the Lithuanian master's students final papers, doctoral dissertations and their abstracts was confirmed by the order of the Minister of Education and Science of the Republic of Lithuania No. ISAK-1955 of the 14th December, 2004. The implementation of the ETD project is based on the experience and recommendations of NDLTD and other national ETD projects, well known formats and standards, for example: XML, PDF, Dublin Core, UNIMARC, Z39.50, OAI-PMH and other. Each ETD must be guaranteed the protection of copyright and related rights. ETD must be protected from reproduction and distribution, owner of the copyright may agree or not that the public access to e-documents in the Lithuanian ETD IS would be granted to the users.

## 4. PILOT PROJECT FOR BALTIC STATES AND CURRENT SITUATION

The 14 Lithuanian higher education institutions (further - Institutions) and 1 Latvian University are implementing the project "Lithuanian ETD Project as Pilot Project for Baltic States" (further – Pilot Project) (Lithuanian ETD IS, 2005) financed by UNESCO. The contract No. 4500013751 between Kaunas University of Technology (KTU) and UNESCO was signed on the 15th of December, 2003. It ends on the 31st of March, 2004. 25 thousand US dollars are designated for the implementation of the project.

The goal of the Pilot Project is, following recommendations of UNESCO ETD Guide to prepare and implement the pilot project of selecting, collecting, long term preservation and publishing of ETD's of students of the universities participating in the project, to prepare continuance presumptions and to disseminate the achieved results to other universities of the Baltic States. The Pilot Project fulfils the objectives of the NDLTD under the auspices of UNESCO.

### 4.1 The Pilot Project Results

The Pilot Project concerning the inclusion of ETD's and their metadata of the defended and approved master's final papers into the ETD IS of KTU was implemented in January of 2004 by the Faculty of Informatics of KTU. There were collected 46 ETD's and their metadata. A possibility of searching ETD's in internet was introduced.

ETD Institutional committees were established in all Institutions, which are taking part in the Pilot Project. They have prepared their institutional ETD IS regulation documents. Lithuanian

ETD IS regulation document project was prepared too. Lithuanian ETD IS is a cohesive whole of the ETD IS of the Institutions, which is created, maintained and used applying the same methodology and software, and by storing data in the same storage.

## 4.2 The Pilot Project Succession

The Pilot Project has a strong influence on Institutions and Lithuanian ETD IS development. The creation and maintenance of this IS are associated with the development of the LABT and financed by ITMiS and other Lithuanian and foreign programs, other assigned or received financial resources.

The creation of Lithuanian ETD IS, like the one of thematic full-text databases, was intended in the national project "Lithuanian virtual library and the creation of the full-text documents data base", which was rendered to get the promotion of EU structural funds and belongs to the three project e-publishing system group.

## 4.3 Current Situation

This section presents information about the ETD's included into the Lithuanian ETD IS in the period from first quarter of 2004 to second quarter of 2005.

Figure 1 presents information about the ETD documents submitted into the Lithuanian ETD IS. Since the second quarter of 2004 seven Lithuanian universities presented their ETD's into the Lithuanian ETD IS. Since April of 2005 another 5 university level schools of higher education started adding submitting ETD's to the Lithuanian ETD IS. Therefore, the number of ETD's in the Lithuanian ETD IS started growing faster in the second quarter of 2005. During April - August of 2005 more than 900 ETD's were submitted, and the total number of ETD's in the storage exceeded 1400.
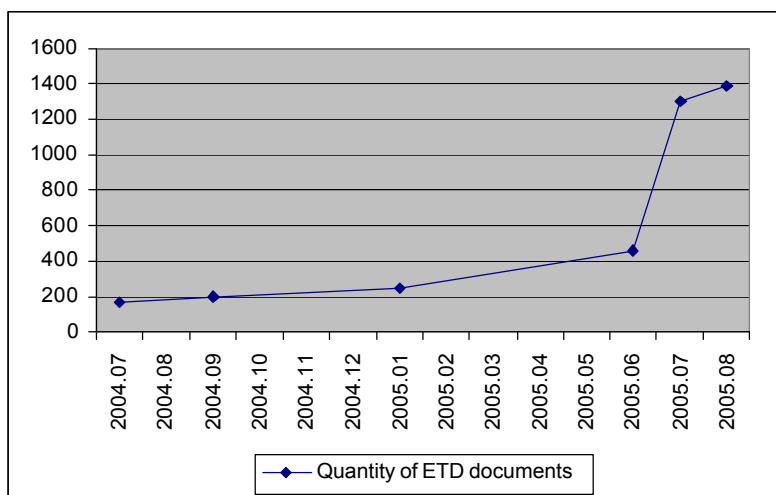


Figure 1. General growth of the number of ETD's (1st July, 2004– 10th August, 2005)

Figure 2 presents information concerning the types and number of ETD's submitted into the Lithuanian ETD IS (Thesis, Summary, Dissertation, Art). Together there is also indicated what institutions are participating in the Lithuanian ETD project. KTU (over 250 ETD's) and Vilnius Pedagogical University (over 450 ETD's) presented the most ETD's. The numbers of ETD's from Mykolas Romeris University added to the Lithuanian ETD IS started rapidly increasing. Vytautas Magnus University and Vilnius University are planning to join the Lithuanian ETD project in the nearest future.
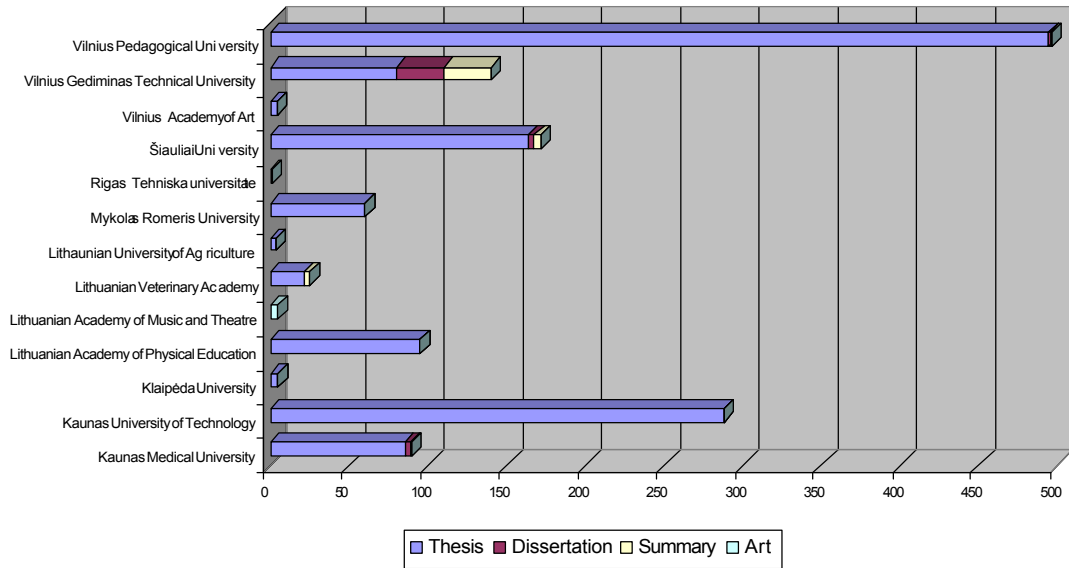
Figure 2. Number of ETD's presented by the 10<sup>th</sup> August, 2005

## 5. IMPLEMENTING THE NEW LITHUANIAN ETD PROJECT

According to the new project programme Lithuanian ETD IS will be considerably extended by e. publishing facilities, submission workflow automation, ETD XML model, Fedora repository. The coarse-grained components of the system are drawn on the Figure 3.
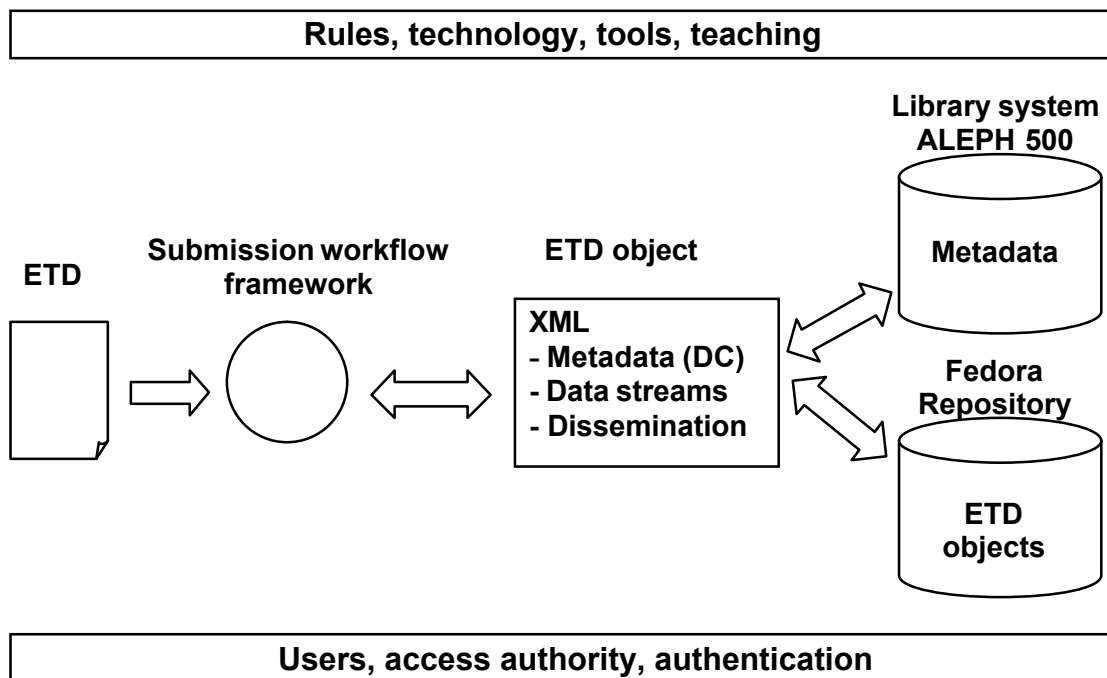


Figure 3. New ETD IS version

A wide range of authorization tools are currently available for preparation of source document of ETD. The usages of those tools have to be organized properly into cohesive framework allowing users to exploit various workflows effectively. When document gets prepared it goes to automated processing – creation of ETD object. The objects and their

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metadata are to be stored in XML format. We have chosen ALEPH 500 library system to store metadata in Dublin Core standard and Fedora repository for ETD objects.

ETD's will be searchable via:
- Repository search engine.
- Library system OPAC.
- Virtual library of Lithuania (based on ALEPH, MetaLib and SFX software).
- NDLTD UC (using OAI-PMH harvesting).
- World-wide known search engines (Google, etc…)

Naturally, a certain bounds have to be set to the Lithuanian ETD IS. Users authentication and access management will be implemented via integration with Lithuanian science and study information system based on PeopleSoft platform. Its human resources subsystem will hold information about ETD registered users deploying LDAP X500 standard. On the other hand, the full set of documents, learning and training materials, normative rules will be prepared for the users of Lithuanian ETD IS. New version of the Lithuanian ETD IS is planed to implement at the end of 2007.


## 6. CONCLUSIONS

A project supported by UNESCO "Lithuanian ETD Project as Pilot Project for Baltic States" gave especially great stimulus for the development and implementation of the Lithuanian ETD project. Thanks to it there was created a functioning Lithuanian ETD IS related to the NDLTD UC. The number of the Lithuanian ETD project members and the number of ETD documents is constantly growing. At the moment there are 12 Lithuanian and 1 Latvian university level schools of higher education participating in the Lithuanian ETD project.

Currently functioning Lithuanian ETD IS has limited possibilities. ETD's are stored in PDF and original formats. A new version of this IS with new possibilities needs to be introduced where the main ETD storage format would be XML.

Further development of the Lithuanian ETD IS, as one of the thematic full-text data bases, is anticipated in the 3 state-importance projects financed by Lithuanian and EU structural funds. The new version of the Lithuanian ETD IS is anticipated to be realized in 3 years within the context of the mentioned projects.


## 7. REFERENCES

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