

# Facing Challenges of New Media on the Crossroads of East-West and Past-Future (Lithuanian Case Study)

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## ABSTRACT

The presentation focuses on three aspects of applying advanced information communication technologies (ICT) in the field of cultural heritage: preservation, dissemination, and training on ICT in case of countries in transition - Lithuania is one of such countries. The aim is to specify economic and social conditions for ICT development in such countries and to show how advanced ICT provide equal opportunities to big or small countries, of prosperous or transient economics, as well as to ethnic minorities, illuminating their cultural or religious diversities and making all this a common Heritage of mankind and allowing for the preservation of cultural identity. Problems of cultural heritage accessibility and need of training in informatics for the humanities considered.

**KEYWORDS:** Multimedia, digitization, training on digital publishing

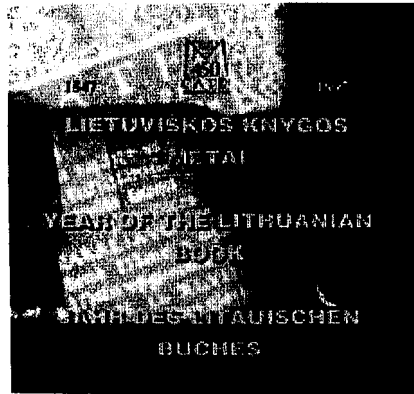
## PRESERVATION AND SAFEGUARDING CULTURAL HERITAGE

Much of the cultural heritage is currently available only in paper form. Archives, libraries, museums are places where the majority of the scientific and cultural resources are stored and preserved. For

centuries, incunabula, maps, music sheets, manuscripts, facsimile and old prints have been carefully archived and protected over times of wars and natural disasters, as a deposit for future generations. Unfortunately, the direct access to this huge deposit of valuable material for professional and personal use is rather complicated, expensive, and not safe for vulnerable and fragile documents. For example, the first Lithuanian book, prepared by Martynas Mažvydas, the Lutheran priest and rector of Ragaine, (Lithuania Minor), printed in Königsberg, 1597 has only two copies extant and they are preserved at the Vilnius and Torun (Poland) University libraries. Naturally, the access to this valuable monument of language and culture long time was very limited.

In the occasion of the commemoration of the 450<sup>th</sup> anniversary (1547-1997) a computer multimedia book *Year of the Lithuanian Book* (Fig. 1) was issued [24]. It contains pictures of pages from the first Lithuanian book, presents its historical background and cultural context. It provides with the opportunity to listen to Martynas Mažvydas' hymns and get acquainted with old maps as well as the place names of East Prussia, or Lithuania Minor. A reader can find information from all over the world

about jubilee events and their coverage in the mass media, bibliography, documents, and chronicle of events. The 450<sup>th</sup> Jubilee of the first Lithuanian book by Martynas Mažvydas was included in the 1997 UNESCO Calendar of Jubilee Dates as one of eminent dates with which UNESCO has been associated in 1996-97. After the 450 years the modest original book of a small format (18 x 11cm, 79 pages) is represented as an interactive CD-ROM containing incomparably more information, pictures and sound records.



**Figure 1: The first electronic book, CD-ROM (1997) on the first printed Lithuanian book –*The Catechism*, 1547**

Preservation in ICT context means digitization and safeguarding of cultural values as superior quality digital copies for long-term loss-less data storage oriented to contemporary and future users. This involves storage and manipulating huge amounts of digital information representing images (digitized museum's treasures, medieval manuscripts), sound records (folklore or speech collections). For example, Lithuanian language, still rich in dialects, are interesting for linguistic

studies world-wide as one of the most ancient Indo-European languages, therefore must be safeguarded and made accessible for scientific research everywhere. The first attempt in this direction was made by creating the Multimedia Dictionary of Lithuanian Dialects [10]. This interactive CD-ROM demonstrates multimedia dictionary possibilities: a reader can see a picture of an object, to listen to pronunciation of a word in different dialects and to see how it is written in Lithuanian language. Therefore it can be used without any a priori knowledge of a language. A scientific interest of Italian scholars in Lithuanian language ought to be mentioned separately: the exhaustive studies were published in Italy [5, 15], and later on translated into Lithuanian.

During a period of a several last years, some part (but rather small) of stored cultural heritage has been issued on CD-ROMs in Lithuania. A few of them has been already published or prepared to release on CD-ROMs (they are mentioned in the extended list of References [7, 10, 11, 13, 21, 24, 25]). This gives an insight into themes and content which was made accessible electronically upper-most.

#### **CULTURAL HERITAGE OF ETHNIC MINORITIES IN NEW MEDIA**

New opportunities for self-expression of cultural communities of ethnic minorities in digital space and spread their wealth were used extensively in Lithuania. Lithuania as a multi-cultural and multi-lingual country is known from the 14<sup>th</sup> century, the time of the Grand Duchy of Lithuania, which has been a realm and good home for many nations with different cultural and religious background, and which had cultural and trade relations with many European and non-European countries. Several

Lithuanian ethnic minorities, such as the Karaims [12] or the Tatars [14] celebrated the 600<sup>th</sup> anniversary of their settlement in Lithuania recently. In spite of a rather small number of those nationals (less than 0.2% of whole population; the smallest minority – Karaims have only 257 persons living now in Lithuania) they were not assimilated during ages and have safeguarded their customs, their religion and their identity. New media means such as WWW and CD-ROMs do open wide opportunities to those ethnic cultural minorities: their web sites were created in the framework of a Lithuania State program *A Virtual Exhibition of a Millennium of Lithuanian Cultural Heritage* [1]: Jews in Lithuania [8], (fig. 2), Lithuanian Karaims [12], Lithuanian Tatars [14], Russian Culture in Lithuania [20].



Figure 2: Starting page of the Web site <http://litvakai.mch.mii.lt>

The past, history, customs, traditions, language, religion, social movements are considered here in details and are illustrated with pictures and records of music, language, hymns. This project has to be developed adding new materials and issuing the CD-ROM on the Cultural Heritage of Ethnical Minorities in Lithuania [21]. It is

interesting to notice that there is no analogous CD-ROM on the cultural heritage of the main population of Lithuania but instead there is a digital book-encyclopedia about Samogitia [25] - one of the ethnographic regions of Lithuania. It is a good proof that new media provides equal opportunities to small and big communities, fosters and stimulates their self-expression in a new media. This can be seen from the list of multimedia projects, given in the extended list of References at the end of this paper. Many of these projects are implemented at the UNESCO Chair in Informatics for the Humanities and the Multimedia Center for the Humanities at the Institute of Mathematics and Informatics, in collaboration with many other Lithuanian cultural institutions: Institute of Lithuanian Language, Lithuanian Art Museum, Vilnius Art Academy, Martynas Mažvydas National Library, Institute of History.



Figure 3: Home of the Lithuanian Art Museum [9]

#### PROBLEMS AND SOLUTIONS OF CULTURAL HERITAGE ACCESSIBILITY

Cultural heritage nowadays cannot be represented by text only, multimedia elements emerge inevitably. This requires extended computer memory resources and broadband

narrow-band network cannot be used effectively because of heavy traffic, while high-speed modern channel means high costs what are not affordable for country in transition or some single user. There is an alternative solution. Involved people should be trained how cultural heritage material, usually enormous digital files, should be prepared for dissemination using more elaborated presentation and advanced compression methods. The great advantage of information technologies is that ICT are not dependent on the geographical situation of a country or its earth' resources; ICT are dependent on mind, science and human factors. The countries such as Lithuania, although being temporally restricted economically, are not restricted in mind development. There is a great scientific potential and information technology specialists are able to use advanced ICT in technically and economically limited environment. Dissemination of cultural heritage via narrow-band communication channels of countries in transition needs specific development of WWW sites and elaborated compression techniques to save up channel's resources and make a heritage accessible online.



**Figure 5. The cover of the CD-ROM  
Monasteries and Convents in  
Lithuania, 2000, [16]**

This evokes also a need to train people [3, 6, 23] how such materials should be prepared for dissemination while using advanced ICT in limited possibilities environment. Training subject is discussed in the following section.

### **TRAINING PROJECTS ON INFORMATION TECHNOLOGIES**

In previous section was mentioned a great impact of ICT people into dissemination of cultural heritage, but not everything can be done by the efforts of information technology's specialists only. The progress in the fields of hardware and software is nothing if a human factor, the ability of the community to understand, accept and use the advanced technologies is forgotten. Teaching and training users and trainers in the fields of cultural education become one of the most important challenges in creating Information Society, a popular slogan of last years in many countries.

Training on ICT for purposes mentioned above is implemented as intensive course informatics for the humanities. The latest example of a specialized ICT training is the project supported by UNESCO entitled *Courseware for Training of Trainers and Users on the Special Applications of Internet-Based Services in the Fields of Cultural Education* [3], created at the UNESCO Chair in Informatics. The aim of this project is to develop educational material completed with explanatory texts, examples, demonstration material on the special ways in which computers and, in particular, Internet-based techniques can be used in the fields of culture, such as museums, teaching of music, management of cultural sites and tourism, artistic creation and education, preservation of and improved access to historical documents, publishing. The

training material is accessible worldwide online and on CD-ROM if requested from UNESCO. Other projects in education area are: *Training of Trainers on Digital Publishing* [23] supported by UNESCO, 1999 - 2000, and *Development of Electronic Publishing Program in Lithuania* [6], 2000, supported by the Open Society Fund-Lithuania (Soros Foundation).

Several years of development cultural objects in digital space had proved that it is extremely important to teach the content owners to represent their heritage in new media and to maintain their sites, when lack of funding is a common situation. Otherwise the number of forgotten or "dead" sites will increase dramatically and a culture of a small country will be diluted in a progressing process of globalization.



**Figure 6: Starting page of a Virtual Exhibition of a Millennium of Lithuanian Cultural Heritage site [1]**

#### CONCLUSIONS

When applying advanced information technologies at the field of cultural heritage concerning countries in transition, considered in this paper, it is concluded that:

- 1) ICT tools have a special importance for small countries and particularly for ethnic minorities to represent their culture about which the rest of the world does not know so much. This gives enormous opportunities for self-expression of cultural communities and resistance to a common process of cultural globalization;
- 2) There is a discrepancy between needs of multimedia representation of cultural objects and bottleneck in computer networks. Dissemination of cultural heritage via narrow-band or limited in costs communication channels evoke a need of development of new methods and special approaches to save up computer network's and channel's resources;
- 3) Training in informatics for the humanities has a special importance in current situation.

#### REFERENCES

1. A Virtual Exhibition Of A Millennium Of Lithuanian Cultural Heritage <http://alka.mch.mii.lt>, Lithuanian and English versions. A portal site represents Lithuanian cultural heritage from ancient time until nowadays. The Balts, Lithuanian State, society, ethnic minorities, folk and elite culture, landscape & architecture, art, religion, intellectual life are overviewed in depth by more than 25 project teams working on separate themes and having this joint connection in a Virtual Exhibition Site.
2. Content And Commerce Driven Strategies In Global Networks, Executive Summary, European Commission, Directorate General XIII/E Luxemburg, 1998.

3. Courseware For Training Of Trainers And Users On The Special Applications Of Internet-Based Services In Fields Of Cultural Education. English version, downloads.  
*http://daugenis.mch.mii.lt/UNESCOeducation.*  
Educational material completed with explanatory texts, demonstration material on the special ways in which computers and Internet-based techniques can be used in the fields of culture. preservation and improved access to historical documents.
4. Digital Culture For The Humanities.  
*http://sk.mch.mii.lt,* Lithuanian version. The aspects of Cyber culture, interesting and useful links, training courses and services related to software and hardware problems met by inexperienced user are represented here.
5. Dini, P. U., *Le lingue baltiche*, Firenze; La Nuova Italia, 1997.
6. D-Pub (Digital Publishing).  
*http://mm.mch.mii.lt/index.en.htm,* Lithuanian and English versions. Important information about digital publishing courses, outlines of main training modules, online registration, downloads of teaching material.
7. Historical Collections Of The Vilnius University Library, 1998, the CD-ROM prepared and released by Vilnius University Library, in the framework of the Memory of the World programme, UNESCO sponsored. [CD-ROM, ISBN 9986-9204-0-X].
8. Jews In Lithuania.  
*http://litvakai.mch.mii.lt,* Lithuanian and English versions. History, language, religion, outstanding persons, Vilnius - Jewish Jerusalem and many facts in Jewish culture in Lithuania are overviewed on this site. Joint Project with the Lithuanian Jews Community
9. Lithuanian Art Museum.  
*http://LDmuziejus.mch.mii.lt,* Lithuanian and English versions. Represents the Lithuanian Art Museum in Vilnius and all Branch museums and galleries spread in over Lithuania: their history, collections, educational activities, exhibits and the latest exhibitions, pictures, interesting texts, sound records are displayed. Joint Project with the Lithuanian Art Museum.
10. Lithuanian Dialects.  
Multimedia Dictionary, Volume 1, 1998. Published in cooperation with the Institute of Lithuanian Language, supported by UNESCO. [CD-ROM 9986-668-19-0].
11. Lithuanian Folk Textiles Patterns. Online  
*http://www.mch.mii.lt/AudiniuRastai* / This CD-ROM running project, 2001, provide an historical and regional perspective of Lithuanian textile patterns and a framework for interpretation and analysis of the designs. It dwell on the importance of hand-made weavings both within the family environment and as expression of the social fabric of the country. Joint Project with the Institute of History.
12. Lithuanian Karaims  
*http://protenis.mch.mii.lt/karaimai,* Lithuanian and English versions. Represents culture, history and customs of the smallest ethnic minority in Lithuania.

13. Lithuanian National Martynas Mažvydas Library Collection Of Parchments.  
The oldest privileges, the Great Duchy of Lithuania parchments, Pope bules. The material available in English, Polish, Italic, and Old Slavonic languages, the CD-ROM to be issued 2001 and the web site is under construction. Joint Project with the National Library.
14. Lithuanian Tatars  
<http://www.gaumina.lt/totoriai>  
Lithuanian and English versions. Customs, culture of Tatars what are settled in Lithuania since 15th century.
15. Michelini, G. "Ancora sulla Margarita Theologica lituana: interferenze con il tedesco nella traduzione del lessico latino" AtSGM, 32, 1990-1991.
16. Monasteries And Convents In Lithuania. A multimedia book presenting monasteries and convents in Lithuania: the history and their impact on culture and art in their historical development with particular attention to the artistic values of objects, a lot of pictures, representing their architecture and arts. Several original pieces of music created in Lithuanian monasteries can be listened to, here having the first publication of newly discovered opus of music. [CD-ROM, ISBN 9986-571-58-8], 2000. Lithuanian version is also available online: <http://vienuolynai.mch.mii.lt>.
17. Museums Of Lithuania.  
<http://muziejai.mch.mii.lt>,  
Lithuanian, English, German, and French versions. A Portal site were over 250 Lithuanian museums are represented. Museums in countryside and big towns, the collections and important information for visitor as well as the latest exhibitions at any museum described can be found there. The pictures of the most interesting items, some sound records are displayed. Joint Project with the Lithuanian Art Museum.
18. New Fine Art Editions  
<http://leidiniai.mch.mii.lt>, Lithuanian version, English under construction. Lithuanian art publishers and publication of art books and albums since 1997 are represented. Joint Project with Vilnius Art Academy.
19. Postilla - 400.  
<http://postilla.mch.mii.lt>, Lithuanian and English versions. The first printed (1599) Collection of Sermons for Lithuanians. The events of the 400th anniversary celebration, conferences and exhibitions are presented. Joint Project with a Fund of Samogitian Culture.
20. Russian Culture In Lithuania  
<http://www.rkc.lt/paveldas>  
Lithuanian, Russian and English versions. Represents cultural activities and outstanding persons of 19th century.
21. The Cultural Heritage Of Ethnical Minorities In Lithuania. The CD-ROM running project 2001 including Russian, Russian Orthodox, Jewish, Tatar, Karaim cultural heritage.
22. The Samogitian Parks And Museums. <http://mpkelias.mch.mii.lt>  
Lithuanian and English versions. Project deals with elite culture heritage (manors and museums, parks, their past and present). Joint Project with a Fund of Samogitian Culture.

23. Training Of Trainers On Digital Publishing. Educational material completed with explanatory texts, examples, and demonstration material. The training material is available on CD-ROM if requested from UNESCO.

24. Year Of The Lithuanian Book- Lietuviškos Knygos Metai - Jahr Des Litauischen Buches, 1997. All about the first Lithuanian Book - THE CATHECHISM of Martynas Mažvydas published in 1547, history, cultural context, the 450th anniversary. [CD-ROM, ISBN 9986-680-09-3]. Online <http://PirmojiKnyga.mch.mii.lt> Lithuanian German, and English versions created in the framework of the State Programme to Commemorate the 450th Anniversary of the publication of the first book in the Lithuanian language.

25. Žemaitija-Samogitia. <http://samogitia.mch.mii.lt>, Lithuanian and English versions. Unique ethnographic region of Lithuania with interesting history where the customs of ancestors are still strong. Joint Project with a Fund of Samogitian Culture. [CD-ROM, ISBN 9955-441-01-1], 2000.

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