

Electronic Media Resource Center Ukraine – Opinions and Impressions

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Abstract

A short introduction into the TEMPUS-TACIS project “Electronic Media Resource Center Ukraine (eMeReCU)” (2003-2006) is given describing the aims, the major work packages, the actual state and the perspectives of the project. Special emphasis is put on the collaborative work invested into its technical and conceptual foundation.

The Project eMeReCU 2003-2006

The project Electronic Media Resource Center Ukraine (eMeReCU) has been run in the course of the EU program for third country states TEMPUS-TACIS during the period September 2003 – August 2006. The respective part of TEMPUS-TACIS is the University Management Section which focuses on the restructuring of the management, organization and administration of universities in Eastern European countries. The host university is the “University Kyiv-Mohyla Academy” (UKMA) of Kiev, Ukraine.

The main objective of the eMeReCU project is the establishment of a modern Electronic Media Resource Center at UKMA to add further resources to university education and to academic exchange. At the same time the lack of a suitable amount of comprehensive text books and tutorials in Ukrainian libraries that are printed in the Ukrainian language shall be at least partially compensated by free access to a collection of electronic books and tutorials of high contemporary standards and profiles written in Ukrainian or in English.

By connecting UKMA to reliable broadband cable networks, the access to e-libraries and e-learning systems worldwide and the improvement of (inter-)national digital communications and exchange of material will be established. Also, a network of Ukrainian Universities and Colleges shall be established that uses eMeReCU as a central source and storage for multi-medial teaching material. In a subsequent TEMPUS-TACIS project in 2005-2008 eMeReCU serves as a repository storage for a cascading campaign of education of school teachers all over the Ukraine in managing elementary computer training courses at primary and secondary schools. This project is conducted by UKMA Kiev and coordinated by HTWK Leipzig.

The e-library and e-learning platform eMeReCU is imagined to become similar to the OpenCourseWare platform of MIT [OCW] or to the e-learning platform MERLOT [MERLOT].

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The Consortium Members and Coordinators

The eMeReCU project has been coordinated by the Department of Computer Science, Mathematics and Natural Sciences of the Leipzig University of Applied Sciences / Hochschule für Technik, Wirtschaft und Kultur (HTWK) at Leipzig, Germany. (Cf. www.imn.htwk-leipzig.de.) The main coordinator is Klaus Hänßgen. Technically the organization rests in the hands of the International Media & Book Agency (IBA), Berlin, under the direction of the CEO Ingo-Erik M. Schmidt-Braul (cf. www.iba-berlin.de). The HTWK stands in the tradition of more than two centuries of technical education at predecessor educational institutions in Leipzig. Within the eMeReCU project the Department of Computer Science has been provided an essential contribution to the development of audio/video communication tools. The collaborators from HTWK can rely on their experience of former European projects like "Vernetzte Regionen Südraum Leipzig" (Networking in Leipzig Regions), "Bildungsportal Sachsen" (Saxon Educational Online Network) and "Human Resource Development for Publishing in Ukraine" 1999-2002, the latter together with UKMA Kiev and other institutions.

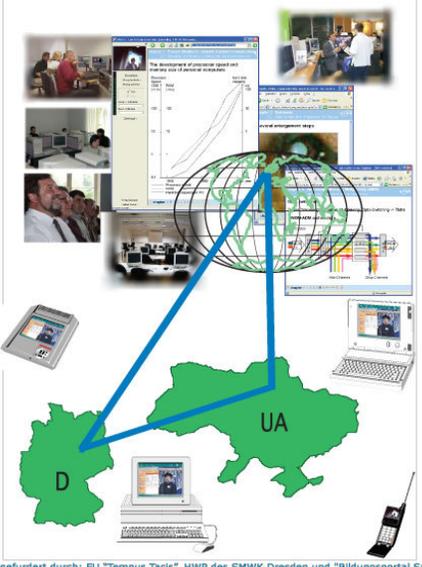
The major Ukrainian consortium member is the Faculty of Computer and Information Sciences of the University of Kiev-Mohyla Academy (UKMA) at Kiev (www.ukma.kiev.ua) represented by Mykola Glybovets, Volodymyr Boublik and Semen Gorokhovskyy. After the restoration of UKMA as a national university of the Ukraine in 1990 the Faculty of Computer and Information Sciences was set up step by step. The process started by the consecutive foundation of four chairs and of an informational-computing center during the 90ties. These organizational units became the Department of Computer Science in 1995 and the Faculty of Computer and Information Sciences of UKMA in 2001. The University of Kiev-Mohyla Academy provides a principle of liberal arts education. The bachelor, master and graduate students are trained in several connected specializations and participate in interdisciplinary studies. The Faculty of Computer Science introduced some considerable involvement in the industry and information technologies of the Ukraine. Due to the high skills in the combination of pedagogy and computer science at UKMA the students-alumni are among the best trained specialists of the Ukraine. UKMA hosts some of the central network knots of scientific computer networks of the Ukraine. Due to the 1999-2002 European project "Human Resource Development for Publishing in Ukraine", the projects "Educational programs development for the multimedia specialists training" (TEMPUS-TACIS), "Electronic repository for resource and educational materials for ecology" (American academy of development) and other international projects the experts at UKMA collected experience in successfully running projects and fruitfully international networking.

The other Ukrainian consortium member is the Faculty of Information Systems at the University of Ostroh Academy (UOA) at Ostroh represented by Ihor Pasichnyk (cf. www.uosa.uor.net). The University of Ostroh Academy was reestablished in 1994. It has been a partner of UKMA in several national projects for curricula development based on new technologies and methods. At UOA advanced technological and educational methods have been used already for several years. The existing pedagogical expertise has been contributed to the eMeReCU project.

As a EU consortium member the Asia Business Initiative (ABi) Associates Ltd., Harrow Middlesex, United Kingdom, (abi.co.uk) joins the project. ABi designs and delivers innovative business support programs for communities and their administration. The experience built up by ABi as a reliable partner of the industry that has managed successfully numerous EU projects, contributes to the eMeReCU project.

Beside these organizations six external experts serve as consultants for solving technical and content questions in the eMeReCU project.

eMeReCU: e-Learning - international
Internationale Bildungsangebote per
Media-Ressource-Center
Educational and training offers via
Media Resource Centers



- e-Libraries + Distance-e-Learning für Ausbildung, Forschung, Verwaltung, Industrie
- Plattform-Unabhängigkeit durch JAVA
- kostengünstige Nutzung durch Open Source (z.B. ILIAS, OpenJSS)
- angepasste Services für Provider und User per IP, TSDN, xDSL, UMTS, WLAN
- Audio, Video, Dokumente, 3D: Live/Nonlive, Online/Offline per Desktop, per Pocket-PC, per Wap
- Synchroner Kommunikation - PC-gestützt bei angepasster Bandbreite

Partner: HTWK Leipzig, UKMA Kiev, ABI London, IBA Berlin, Open University London

gefördert durch: EU "Tempus Tacis", HWP des SMWK Dresden und "Bildungsportal Sachsen"

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The Platform of the Electronic Media Resource Center

One of the first tasks to be solved was the erection of the technical basis of the project. Based on the financing by the eMeReCU project this task was accomplished at UKMA within a short time. Relying on the internal 100 Mbit Ethernet of UKMA the data transfer rates and the quality of service reached a satisfactory level. One of the key difficulties to overcome was the connection of the Ukraine to the internet by broadband connections. Among the few alternatives of satellite or wire connections offered by several companies finally a cable connection to the Austrian network was realized by Ukraine Telekom via Slovakia in September 2004 bringing fast and reliable internet and email connections to Kiev and parts of the Ukraine. The extension GÉANT2 of GÉANT was launched in June 2005, [Géant]. The Ukraine is actually connected to the European GÉANT high speed network with a bandwidth of appr. 64-265 Mbit/s, in particular UKMA plans to extend to 100 Mbit/s in 2005 and to 2-4 Gbit/s in Spring 2006. The key problem still to be solved is the satisfactory connection of many students hostels, private flats and more remote institutions to the core network to allow effective exchange of large amounts of information as necessary for general e-learning environments and processes.

The next step was to create a creative informational environment for development and usage of online multimedia courses, as well as an environment for the development of electronic resources for university education and academic exchange. For running an e-library a suitable storage and taking out environment has still to be de-

veloped. At present a media server is the heart of the existing environment. It holds the portfolio of existing e-documents and manages the access to them. As a content management system serves the open source course management software *Moodle*. As an alternative, the open source portal and content management software *Mambo* has been considered. As an e-learning system the open source software *ILIAS3* has been adopted which serves in part also as an e-library management tool. *ILIAS3* and *Moodle* allow to establish course structures with a large number of communication tools like forum discussions, chat rooms, live expert support and RSS news feeds. (See [tool1-tool5] for technical details.) On top an eMeReCU Portal has been established which offers controlled access to the system, news subscription and a full set of information about the ongoing processes and instant offers of eMeReCU (cf. [eMeReCU]).

The e-learning environment *ILIAS3* in the realization of eMeReCU offers the necessary amount of courses, supporting tools and a repository of electronically stored materials. The courses can be grouped by several categorical criteria, including the realization of further internal course structures by the way training materials are presented. Streaming tools allow a fast online distribution of the materials to the customers of the system. Any course can be accompanied by a live forum and by virtual learning rooms offering communication opportunities with co-learners of the respective courses and with supervisors of the eMeReCU platform. Offers of exercises for self-control accompany the lessons and tutorials. As a rule immediate or assessed control of the submitted solutions is provided. As a business model for eMeReCU an open subscription system is considered to be realized beyond UKMA.

The e-learning environment is accomplished by an online profile management system of personal web pages of the students – EFolio. Beside the usual functionality of personal web pages to offer personal information and products like publications or white papers, the students are encouraged to store information about their schedules and special interests. Members of eMeReCU can upload or manage their course materials using EFolio. A smart search is established as part of EFolio to access the stored information by any member of eMeReCU to make contacts, to gather into virtual communities and to improve their learning processes.

The e-learning platform contains a management software for software engineering projects and for similar tasks of project character. It heavily relies on the open source software *egroupware* and *phproject*. From rough ideas to managed requirements all processes are documented and updated according to the project state. Each participant has personalized tasks, documents and resources to work with. For software projects a tool for live bug tracking and immediate support is included. Using this management software of eMeReCU the students are in the position to organize real software engineering and other projects among themselves meeting only virtually at the eMeReCU platform.

Relying on the now existing and approved prototype of eMeReCU further steps are planned to improve the platform and to run it on a planned basis. As a task to be solved the incorporation of single authentication mechanisms based on LDAP services has to be implemented. The portfolio of courses and e-library materials has to be vastly extended. For this aim a one-click repository for SCORM-based import and export of packages has to be provided by eMeReCU. Easy to use tools for the creation of e-learning and general content packages have to be offered to potential authors by the system. Only the existence of supporting tools may sufficiently encourage collaborators of the educational system of the Ukraine to run a large number of courses with eMeReCU support and to provide the necessary contents which makes the electronic library a most valuable collection of e-learning material. The

eMeReCU platform has to be integrated with existing university administration processes, services and workflow systems to make it part of the usual study process of blended learning at UKMA. As an add-on feature of the platform the integration of an audio/video communication system into it has to be considered to make online-seminars and video conferences possible. The HTWK team lead by K. Hänßgen has been collecting rich opinion with audio/video communications working on lecture presentation systems like GWOTS and on the usage of panoramic video for virtual seminars and video conferencing.

In order to ensure sustainability of the Electronic Resource Center a number of ideas has been discussed among the participants of the project and potential partners. First of all, the system will be transferred to other Ukrainian universities adopting standards and distance learning according to EU standards. Audio/video communication has to be established as a regular part of offers of eMeReCU to the audiences which rely on the system. The necessary financial support to maintain eMeReCU and similar systems has partially to be covered by sponsoring from the private software industry. This process can be started and supported by some kinds of benefit from the competences of the universities' graduates offered to private companies by eMeReCU.

In September 2005 starts a new EU-project "Interregional IT-Training Courses for Kyiv-Mohyla Collegia Networks" financed by the TEMPUS-TACIS program in strong connection with eMeReCU. The goal is to establish contemporary computer training courses at a large number of primary and secondary schools of the Ukraine by training school teachers in a coordinated way of a cascade of blended learning style courses. The course organization will be conducted by UKMA Kiev, by UOA Ostroh and by the Petro Mohyla Mykolayiv State University (MSU). The eMeReCU platform will serve as a central course material repository for courses of any level of the cascade. The project will be accompanied by HTWK Leipzig, Nicolaus Copernicus University Torun and by other European specialists.

Activities of the Project Consortium and of People Associated to eMeReCU

The major activities of the members of the eMeReCU consortium and of the specialists have been concentrated around the Autumn meetings at HTWK Leipzig in 2003 and 2004, as well around the Spring meetings at UKMA Kiev in 2004 and at UOA Ostroh in 2005. In the meantime a number of visits in both directions improved the progress of the project. The project coordinators have been connected by video conferences on a weekly basis to discuss the current work and to coordinate forthcoming activities.

The main engineering work load at UKMA in Kiev has been taken over by a team of Master students of the Faculty of Computer Science of UKMA. They tested the proposed open source software to set up the prototype of eMeReCU, followed by an intensive engineering process undertaken to bring the resulting concept to life. To get in contact with the most comprehensive IT-concepts two groups of Ukrainian students had the opportunity to visit HTWK Leipzig and the CeBIT fair in Hannover in March 2004 and 2005, respectively. They were welcomed by a group of German students who have got into an intensive personal contact beyond pure computer science and e-learning activities. These contacts have been continued by ICQ chats and

email in the meantime between the visits. The German students visited UKMA in Kiev in September 2004, and they will go for another collaborative stay to Kiev in September 2005. The last visit within the eMeReCU project will bring Ukrainian students to Leipzig in March 2006. These students exchanges brought a fruitful exchange of ideas and concepts for the participants. The ideas partially were introduced into the final stage of the existing eMeReCU prototype. Beyond these direct benefits for the project itself the participating students and consortium members have won a lot of insights into the achievements and problems of the respective other country and, particularly, of its educational system. Consequently, a contribution to create a deeper understanding of the respective societies was made orientating minds towards an reinforcement of East-West collaboration within Europe.

The progress of the eMeReCU project was reported at the international fairs CeBIT 2004 and CeBIT 2005 by a stand as part of the higher education system exhibition of Germany. The posters have been shown at several other occasions like meetings, conferences and local fairs. In the Ukraine eMeReCU attracts more and more attention, as a quick search at Google reveals. Several news services and web pages devoted emphasizing articles to the project in 2005.



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