Document title:	**Report on Study Visit to University of Leuven (Katholieke Universiteit Leuven), Leuven, Belgium**
Study visit host:	Prof. Wim Van Petegem, Director of AVNet - Audio-Visual and New Educational Technologies Center, Belgium
HR participants:	Tihi Bilas, University of Dubrovnik Alka Korin-Lustig, University of Rijeka Sandra Kučina Softić, University of Zagreb Vedran Mušica, University of Zagreb Zoran Nebić, University of Rijeka Tona Perišić, University of Zagreb Karlo Tutek, University of Dubrovnik
Duration of visit:	April 10-11, 2008
Report prepared at	May 2008
Report prepared by	Alka Korin-Lustig Zoran Nebić

I GENERAL REMARKS

Study visit to K.U. Leuven (http://www.kuleuven.be) is one of the visits of Croatian representatives to European consortium partners realized within the framework of the EQIBELT project. This visit was performed in second round of study visits which are directed to visit of the EU consortium members e-learning centers with purpose to learn best practices, to have on-site practical overview and experience on organization and delivery of support in field of e-learning. In process of establishing e-learning support center at Croatian consortium members universities of great importance are all experiences and knowledge on operational, technical and pedagogical issues on e-learning support centers gathered from EU consortium member institutions.

The host of the study visit and the organizer of the program was Prof. **Wim Van Petegem, Director of AVNet - Audio-Visual and New Educational Technologies Center of K.U. Leuven.** He welcomed us at **AVNet** and presented scheduled program of our visit.

Topics of the program were e-learning at the University of Leuven, practices in developing of e-learning courses and technical and didactical support in e-learning. Special attention was paid to using new technologies, including multimedia in education. The program included presentations prepared and delivered by employees of **K.U. Leuven** (AVNet and IT support center) involved in the e-learning education programs and producing and distributing of multimedia. Presentations were held by:

- **Prof. Wim Van Petegem, PhD, Director of AVNet**: Introduction K.U. Leuven and AVNet, From multimedia to multicampus education; guided tour; (e) Competence Development for teachers and teaching staff
- **Erik Luyten,** Policy Advisor Multimedia Technologies and Systems: Video streaming in higher education

- **Leen Van Rentergem, Project Manager Toledo**: Toledo: The digital learning environment @ K.U.Leuven
- **Jan Ryckaert,** Head of Multimedia Development Department: Classification of multimedia equipment in auditoria

Each of presentations was followed by discussion.

Visit vas well prepared and organized by K.U. Leuven, providing contacts with high competent experts and very useful discussions on topics relevant to project goals and objectives.

II FACTS FROM PRESENTATIONS & REFLECTIONS ON DISCUSSIONS:

Thursday 10 April 2008

Prof. Wim Van Petegem, Director of AVNet: Introduction K.U. Leuven and AVNet and guided tour of the premises

K.U. Leuven was founded in 1425, and is a teaching and research university, with a strong focus on community. It serves 30.000 students, 15.000 staff and about 800-900 students at a satellite campus in Kortrijk.

AVNet was formed as an independent unit within the university structure for developing multimedia and media systems but has since become a support center for multicampus education. They offer expertise in multimedia production, but also operational and conceptual expertise in pedagogical and didactical area. It is organizationally placed under the vice-president for education.

In guided tour of the premises we were presented with the resources available for staff and students including:

- Video and sound studios
- 6 video editing suites (available to staff and students 24 hours a day)
- Multi camera production studio
- Recording facilities
- Video and web conferencing equipment
- AV rental service
- TV recording and archiving equipment
- Automated type-four classroom
    - Classroom control through large touch screen with screen preview
    - 2nd control panel for assistant technician
    - Integration of light and dimming
    - Video-conferencing equipment

We were also presented with some examples of their production work: promotional video for a faculty anniversary, video training course, etc.

Erik Luyten, Policy Advisor Multimedia Technologies and Systems: Video streaming in higher education

At the K.U. Leuven multimedia is widely used for education and includes:

- Video conferencing
- Video-on-demand streaming
- Live event streaming
- Recording and distribution of lectures
- Web conferencing
- Multimedia development and production

To be able to serve those needs as well as to support them a large technological structure is necessary.

Videoconferencing

- Six installations for video-conferencing are provided at the University, and 13 more at affiliated hospitals
- Tandberg VC bridge for connecting ISDN and IP connections
- Codian IP VCR for recording video and content, and live streaming over various ports and clients
- Vlan for connecting two campuses, and demilitarized zone for outside, public access to video-conference

Video and audio streaming

- QuickTime technology on OS X Server (Darwin) over RTSP protocol
- Usually used for lectures (either live streaming or video-on-demand)

Upload tool

- Web interface for uploading the video
- Central K.U. Leuven login authentication
- Format of the output file is preset at h.264/AAC 320x240px
- Compression is done in Episode Engine Pro on Dual Quad core Apple Mac
- Web application for administration of the information about the uploaded video

Web conferencing

- Adobe Connect Meeting
- Microsoft Live Meeting
- Consists of
  - Web meetings
  - Exams
  - Supports (live screen sharing)
  - Learning modules

Jan Ryckaert: Classification of multimedia equipment in auditoria

Lack of uniform equipment standards and its impact on user experience was quickly recognized at the K.U. Leuven. The problem originated in having many different versions of the same kind of equipment, each having its set of features and control logic. Such system was very hard to support and unfriendly to the teachers who had to learn to use the equipment over and over again.

To rectify the situation three goals were set:

- Integration
  - Forming a central user interface with touch screen to control all the devices
  - Controlling the characteristics of the room: light, sound, dimming (in the future heating and cooling)
- Automating
  - Multitasking (several preprogrammed actions happen with a single push of the button, e.g. “start lecture” lowers the curtains, dims the lights, turns on the projector and so forth)
  - Auto mixing the microphones
  - Customization of preprogrammed settings
- Standardization
  - The same user experience at any of the installations due to:
    - standardized equipment,
    - same layout of work space (modular desk)
    - same electricity cabling
    - same user interface
  - Equipment is bought (or leased) through long-term contracts with suppliers, who provide the support for equipment through the duration of the contract

A grading scale was developed for evaluating the classroom in the context of being able to support audio-video/multimedia:

- Type 0: not suitable for use of AV/MM
- Type 1: no fixed AV/MM infrastructure available
- Type 2: equipped with a fixed LCD projector
- Type 3: central and automatic control of light, sound, dimming, switching, projection with limited control keyboard
- Type 4: extended control keyboard/touch screen and preview of input before switching to the wall
- Type 5: Type 4+videoconference
- Type 6: multifunctional room

The grading scale is designed to give a single label that would unmistakably describe all the features of a classroom and be the only information that a user needs to know if certain feature is there or not.

The project was carefully planned and executed in cooperation with all the parties necessary for its completion. An operational core group came with a multiannual plan with a final goal of equipping all the classrooms to satisfy the highest possible classroom type. Project included a series of steps including, among others: determining specifications, signing contracts, designing workflow, programming and installing equipment. After the project was done the follow-up results were evaluated, users were trained, data about equipment was centralized in the SAP system, and maintenance checks and procedures defined.

Friday 11 April 2008:

Prof. Wim Van Petegem, director of AVNet: eLearning in the pedagogical framework @ K.U. Leuven: Guided Independent Learning

K.U. Leuven has a very famous and interesting history, which has to be emphasized. For example, Erasmus who has been professor at the University of Leuven for years is nowadays mentioned as one of the first lecturers that promoted the European mobility idea. From the very

beginning Leuven had been a research based University, so in the last decades the need for an overall educational concept that leads to the excellence in higher education has been recognized.

Education has been pushed forward by several external stimuli like quality assurance and Bologna process together with internal stimulus. The internal dynamics is provided through:

- faculty development and training
- appointments of teachers and teaching staff

The answer to the need for external and internal justification was met through development of GIL (Guided Independent Learning) as an overall concept.

Some of the characteristics of Guided Independent Learning (GIL) as a comprehensive concept:

- GIL defines goals for university teaching, roles and responsibilities of students and faculty members
- It is referred to in all decisions with educational consequences
- GIL entails an affirmation of the semiautonomous position of the university

From the pedagogical point of view, GIL provides framework for learning as an active, constructive and cumulative process. Learning has been seen as a highly goal-oriented, self-regulated and contextualized social process during which students should acquire a critical scientific attitude and become actors in knowledge creation and sharing. Graduates should be able to take up responsibility in society and articulate original viewpoints.

To achieve such high goals, the responsibility of all parts involved in educational process should be considered: students', teacher's and organization's The learning environment consists of different learning activities (exercises, libraries, lessons, seminars, trips, face-to-face lessons, multimedia materials etc.) that support the learning process, so digital learning environment is a part of that environment.

Students should take their part of responsibility in accepting the learning process as an active, constructive and self-regulated social process. They should:

- Acquire an in-depth understanding of the instructional goals
- Select and engage in appropriate learning activities

Of course, it is necessary to provide continuous help and support for students in learning environment. Students should independently perform their activities but a continuous education of teachers should be provided during the entire learning process. The responsibility of teachers is to define adequate goals in according to the educational program, to consistently construct an assessment approach for goals mentioned and to elaborate an environment that lines with GIL principles and encourages self-regulation by providing sufficient and goal-directed support. Teachers are no more "sage on the stage", they are more "guide on the side".

The organizations´ responsibility is to support students and teachers in the learning process. The support should be technical as well as pedagogical. This aim has been achieved by means of digital learning environment called TOLEDO which has been implemented at the K.U. Leuven.

TOLEDO is an acronym of *Toetsen end Lehren Doeltreffend and Ondersteunen* (Effectively supporting Testing and Learning) and its logo is a picture of the Alcatara bridge in Toledo, as a bridge between students and faculty.

Toledo has implied changes for students:

- Tasks have become more lifelike and research oriented
- Learning activities have been distributed over the academic year
- The increased study pressure can be recognized in time
- The forms of evaluation and criteria have been changed , for example the assessment of development of academic skills and discipline related knowledge
- Increase of independence – which implies an increase of uncertainty
- Intensive support

Toledo has implied changes for teachers:

- They should redevelop their curriculum
- They are expected to rethink their goals and approach
- They have to support and coach students

Finally, Toledo has implied changes for organizations:

- More professional attention is given to education
- GIL has become leitmotiv for educational policy and support providing educational innovations, curriculum development, teaching assessment and quality assurance

Leen Van Rentergem, **Project Manager Toledo**: Toledo: The digital learning environment @ K.U.Leuven

Toledo is the personalized educational portal at the K.U.Leuven, through which the user can find a variety of generic as well as domain specific tools. The core of Toledo consists of the Blackboard Suite (Learning, Community Portal and Content System) as electronic learning platform and Questionmark Perception as tests platform. These applications are linked with each other and with numerous other tools, to form one global integrated learning environment. The system is integrated with all university administration systems.(http://toledo.kuleuven.be).

Toledo started in September 2001 as a university wide e-learning project. The main goal was to support the implementation of *guided independent learning* by means of a state of the art virtual learning environment. From September 2004 onwards, Toledo became the Common Virtual Learning Environment of the K.U.Leuven Association. At this moment, Toledo is actively used by almost 90.000 different users (73.000 students) from 13 institutions of higher education. The virtual learning environment contains more than 19.000 active courses and over 2.500 communities. Every day an average of 40.000 different users logon to the system. On weekdays there are more than one and a half million hits per day

Toledo is the role based system; everybody sees it in a different way. There are different new tools added to the portal: personal portfolio, event tool for events organizing, community tool for gathering of different virtual groups etc. The environment of each user consists of one institution/faculty tabpage, three fixed tabpages (My Toledo, Admin, Help) and one content system tabpage (e-portfolio, …)

Through Toledo, students have access to a broad variety of online course materials:

- course text
- slides
- examples
- links to useful websites
- exercises
- graphics
- multimedia files

Prof. Wim Van Petegem, director of AVNet: (e) Competence Development for teachers and teaching staff

Every year, the Toledo team organizes several workshops for first time and/or more advanced users of the virtual learning environment. These workshops are taught in Dutch. Some faculties offer additional training initiatives to their staff members. The additional help for students and teachers is provided by means of online manuals, FAQ and helpdesk.

It is very important to give the teachers possibility to choose between different frameworks for a specific course; whether the course is project oriented or classical etc. Toledo system has given external impulses to quality of education (for example by quality assurance).

Each team from Zagreb, Rijeka and Dubrovnik presented their recent results in e-learning implementation and support.

Look into the future, final discussion and conclusion

At K.U.Leuven, the help for teachers is provided in three steps:

- first step: do it yourself ; in the future the goal will be achieved if most of the teachers involved will be able to create and organize materials by themselves
- second step: do it together – teachers have support and help in course creation
- third step: do it for you – if it is necessary, the learning materials for teachers are prepared

The final discussion focused on the information dissemination and the continuous support that should be provided in future for e-competence development of teachers.