THE LAW&ICT SHARED VIRTUAL CAMPUS

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Keywords: Virtual campus, Law, Information and communication technologies, Lifelong learning, Mobility.

Abstract: An European Shared Virtual Campus on LAW&ICT (Law and Information and Communication Technologies) has been created to provide an educational technology platform to offer European-wide graduate and postgraduate level courses and for lifelong learning. In this learning framework, an international Degree, Bachelor in LAW&ICT, an international Degree, Masters in LAW&ICT, and an international Lifelong Learning Programme in LAW&ICT are been development, with the participation of ten European Universities. Also, an Europe-wide network of experts in LAW&ICT has been created to share the knowledge and disseminate the results and experiences. The LAW&ICT Shared Virtual Campus encourages the mobility of teachers, students and professionals among countries, sharing knowledge about similar and divergent aspects in LAW&ICT.

1 INTRODUCTION

e-Commerce, e-Government, digital signatures and intellectual property of ICT products are a vital reality in our society, where the importance is developing at a faster rate in commerce than in public administration. This situation is creating differences between countries, causing problems for citizens and consumers, especially in the cross border operations. Public administrations, on the other hand, are organized along pre-digital rules of governance with the new public management appended as an extra requirement.

In the European Union there exist a number of directives and common practices knowledge of which should be shared between the countries using a common platform, and the knowledge of each country and the diversity of cultures should be incorporated in the development of this dissemination platform, where it will be possible to include contributions from the different stakeholders and the personnel involved in the definition and use of the Law referring to the technologies.

To satisfy these needs, unlike many other areas of formal education, in the LAW&ICT field there exist previous attempts at harmonization at European level, Council of Europe. The most significant rules in this respect are Resolution (73) 23 (Resolution, 1973), Recommendation (80) 3 (Recommendation, 1980), Recommendation (92) 15 (Recommendation, 1992) and Recommendation (95) 13 (1995).

Since 1999 a number of Universities, belonging to ten European member states, has been attempting to implement these Resolutions through working together in teaching and researching in Law & ICT. The results are today the content of the Legal Framework for the Information Society (LEFIS) studies (www.lefis.org). The resultant outputs have been study programs and courses in the field. Most of these courses are currently offered to graduate and postgraduate students and continuing education in different subjects. The studies are systematized also from professional competences according to the TUNING methodology.

The LAW&ICT Shared Virtual Campus Project takes this initial development work and extends it further, including to Lifelong Learning. The project uses the resources that the mixture of old and new methodologies and technologies offers, and the possibilities that development in the European reform process of the Higher Education Area has brought to University structure and interaction.

Figure 1: The LAW&ICT Shared Virtual Campus logo.

2 OBJECTIVES OF THE PROJECT

The transition to the information society promises new services, solutions, and products but at the same time brings with it challenges, issues and problems in many areas. One of these areas is the joint activity between Law, Management and Technical knowledge subjects ("knowledge areas"). These joint activities comprise an important interdisciplinary field, especially the intersection of ICT and law. ICT offers solutions to the legal system for new and better services to the citizens and to improve the legal system itself. Law offers balanced solutions to the use of ICT in areas such as Intellectual Property Rights, privacy, and security. New technological solutions offer services such electronic signature, e-Commerce, e-Governance and e-Democracy, and at the same time introduce new legal issues. These are also studied in the use of ICT in the legal system and law in ICT.

ICT and Law is thus a vital discipline. There is need for training and education and the sharing of expertise, experience, teaching and learning, and best practice. This need is to be found across Europe. But training and education available in this area are limited, and the sharing of best practices and experience and expertise is not widely practiced. One reason for this is the scarcity of experts in the field. Another reason is that the field itself is not yet mature and needs to be defined.

The LAW&ICT Shared Virtual Campus objectives are: 1) to teach the topics in a broad perspective (at all university levels of teaching), using the possibilities offered by the virtual campus, 2) to create an interdisciplinary team of both technological and law specialists, and 3) to train a number of stu-

dents to research and to develop the knowledge about these matters in their own country and share that information with other students of other countries, developing a common framework and using that knowledge to create courses to be followed using on site and e-Learning for citizens interested in this matter. This will help to the community to achieve one of the goals focused upon in Lisbon: making the EU the most competitive knowledge-based economy.

Also, an initiative like this will reinforce the role of universities in facilitating access to "knowledge for all" by creating and disseminating knowledge and innovation to follow up the discussion by the European Heads of State at Hampton Court in October 2005. In this case this will be reinforced with a close collaboration between public and private institutions and universities and firms.

The specific aims of the project are:

1. Creation of an European Shared Virtual Campus on LAW&ICT to become:
- A developer publishing new studies and initiatives.
- A promoter of investigation, research, innovation and dissemination of results.
- An Information exchanger between experts as well as policy makers and students.
- A Campus Administrator.
- A promoter of new online courses and seminars to help decision makers to know about LAW&ICT.
- A virtual location for debate and European policy making.
- A home for editions of Newsletters to exchange knowledge and good practice.
- Support of an International LAW&ICT Library and an on-line LAW&ICT Encyclopaedia.
2. Development of:
- An international Bachelor Degree in ICT and Law (LAW&ICT Degree): 180-240 ECTS
- An international Masters Degree in ICT and Law (LAW&ICT Master): 60-120 ECTS
- An international Lifelong Learning Program in ICT and Law: 2 to 4 ECTS Modules
3. Identification of good practices:
- in the teaching of the legal framework for ICT issues in Europe through the exchange of national and particular experiences;
- in the teaching of the application of ICT to juridical aspects of society.
4. Creation of a network of experts in LAW&ICT all over Europe to share the knowledge and disseminate the results and experiences. The network is envisaged to become bigger and to be periodically updated and improved. It is devised to

be a meeting place and a resource centre for experts. This network will be the motor of the LEFIS Network.

Figure 2: The LAW&ICT Shared Virtual Campus main Webpage.

3 THE VIRTUAL CAMPUS SCHEMA

The LAW&ICT Shared Virtual Campus has the following schema:

- Education system: Blended learning with e-learning and on site courses and seminars.
- Learning materials: Multilingual International LAW&ICT Library and on-line LAW&ICT Encyclopaedia.
- Quality: The objective will be excellence in all the project outputs.

3.1 Education System

The design and development of LAW&ICT modules is guided by the social constructionist pedagogy. This pedagogy consists in the contrasts of the contents of the teaching with other prior knowledge and culture. It accepts that there is more interpretation going on than a transfer of information from one brain to another.

The today basic content of the educational system that constitutes the LAW&ICT Shared Virtual Campus is integrated for:

1.- The learning that the participant Universities impart in their ordinary teaching with the help of the learning technical resources that they use, in general the Moodle system, and

2.- The foreseen learning to teach jointly as an initial content of the LAW&ICT Shared Virtual Campus

The imparted learning at the present time is constituted by 39 modules/courses on the target matters of the Virtual Campus: LAW&ICT.

The 39 modules/courses can be studied in blended format, in the characteristic languages of the participant Universities or in English.

The list of courses is collected in: http://www.lefis.org/app/vcampus/Management/progress_report/courses.pdf

We present in the next paragraphs the current distribution of the offered modules attending to the language, the number of courses and the name of the responsible University of their learning:

−Finnish: three, two are responsibility of the University of Vaasa and one of the University of Lapland, Rovaniemi (both located in Finland).

−English: eighteen,

- Two are responsibility of the Polytechnic Institute of Beja (Portugal),
- Three are responsibility of the Queen's University of Belfast (United Kingdom),
- Two are responsibility of the Bahcesehir University located in Istambul(Turkey),
- One is responsibility of the University of La Laguna (Spain),
- One is responsibility of the University of Münster (Germany),
- One is responsibility of the University of Lapland, Rovaniemi (Finland),
- Two are responsibility of the University of Torun (Poland),
- Three are responsibility of the University of Vaasa (Finland),
- Two are responsibility of the University Mykolas Romeris, Vilnius (Lithuania) and
- One is responsibility of the University of Zaragoza (Spain)

−German: two, responsibility of the University of Münster (Germany).

−Lithuanian: two, responsibility of the University Mykolas Romeris of Vilnius (Lithuania).

−Polish: one, responsibility of the University of Torun (Poland).

−Portuguese: three, responsibility of the Polytechnic Institute of Beja (Portugal).

−Spanish: eight, five responsibility of the University of Zaragoza, two responsibility of the University of La Laguna (both in Spain) and one of the Polytechnic Institute of Beja (Portugal).

−Swedish: two, responsibility of the University of Vaasa (Finland).

The courses are imparted preferably at graduate level, other courses are proposed for the foreseen studies of postgraduate and graduate degree that the Universities plan to impart jointly as soon as possible. There are several initiatives that propose the joint use by the students of the different Universities the offer of the network partners.

The initial foreseen joint offer of postgraduate level in e learning modality is constituted by the LEFIS Master, title recognized by the University of Zaragoza and the LEFIS Diplomas (six in total) and Courses of Specialization.

The educational load of the Master is constituted by 60 ECTS, 30 ECTS is the load of the Diplomas and 5-6 ECTS the load of the Courses. The registration for this offer is open.

3.2 Learning Materials

The learning materials are constituted by the own contents of each module and those that form part of the LAW&ICT digital Library and the LAW&ICT Encyclopedia.

All the materials are integrated by several kind or resources (handbooks, presentations, papers, exercises, links...) developed by the responsible teachers. Another part has been elaborated by the LEFIS network along their activities period, (from 2003) thanks to the realization of seminars and conferences and the elaboration of books: especially the volumes that integrate the LEFIS Series (six until this moment: http://puz.unizar.es/catalogo/colecciones_libros.php?coleccion=40).

3.3 Quality

A Committee of Approval of the courses and Insurance of the Quality, integrated by five representatives of the participant Universities and two external auditors, veil for: the new courses proposal and elaboration process, the approval of the courses, and the permanent guarantee of quality of the imparted courses.

Members of government organizations and companies are invited to participate in the activities of the Committee.

4 THE INFORMATION TOOLS

The LAW&ICT Shared Virtual Campus relies on a set of information tools to ensure a highly relevant and precise transfer of knowledge among their actors.

In order to ensure maximum customization and interoperability and also to provide the best transfer potential of the project to both developed and developing countries, only free open source software has been used (Figure 3).
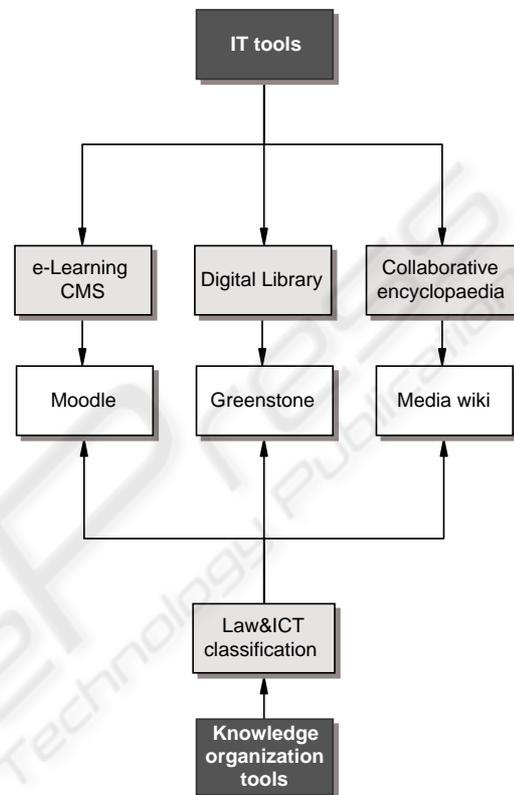

Figure 3: A sketch of the system architecture.

The information system is composed of three different functional and technological environments.

The first environment is an e-learning content management system to provide basic and advanced electronic learning features, which is built on Moodle, well-known open software for digital learning environments. One of the reasons to choose Moodle was that most of the partner Universities uses this Learning Management System.

The second environment is the digital library, whose aim is storing all the media that is or can be useful for the e-learning community and can be stored or pointed to. The digital library is built on the popular digital libraries software Greenstone.

Finally, the third component is a collaborative environment with version control —that is to say, a Wiki— to provide for the development of a shared conceptual and terminological network, available in all the languages of the virtual campus participants.

The three system components share a common knowledge organization tool —the LEFIS Law & ICT Classification—, whose aim is to provided a common classification and systematic retrieval tool for the LEFIS community.

4.1 The Content Management System

The Moodle platform is used to manage the creation, management and use of all the digital campus courses. The pedagogical and learning material design approaches are described in section 3.

4.2. The LAW&ICT Digital Library

Though from their very beginning very different views and models of digital libraries have existed (Borgman, 1999; Dabello, Saracevic et al., 2004); nowadays, they are the unavoidable platform to provide just-in-time high-quality user-focused, precise and exhaustive multimedia materials.

The LAW&ICT Digital Library aim is publishing and making available multimedia documents on LAW&ICT, ensuring all the bibliographic control features available in a library and also the immediate online availability of the materials.

Figure 4: The LAW&ICT Digital Library main Webpage.

The LAW&ICT Digital Library is implemented on Greenstone, a suite of software for building and distributing digital library collections produced by the New Zealand Digital Library Project at the University of Waikato, and developed and distributed in cooperation with UNESCO and the Human Info NGO. Greenstone allows for Dublin Core metadata cataloguing and standardized storing formats.

The library is including all kind of relevant multimedia material —printed, audio, still images, video, multimedia—. It is accepting relevant published works —academic, professional, legislation, jurisprudence— and also related grey literature, publishing free materials with author permission or redirecting to copyrighted materials.

One of the main subprojects is the online republishing of out-of-print materials with copyright recovered by authors in the LEFIS digital series.

4.3 The Collaborative Environment: LEFISpedia

Another column of the LEFIS virtual campus is the online encyclopaedia. Online collaborative encyclopaedias follow the remarkable success of Wikipedia, and is being more a more envisioned and used in specialized contexts (v. g. Giustini, 2006) and, of course, legal education (Noveck, 2007).
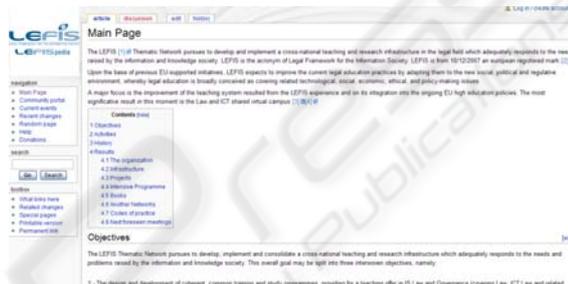
Figure 5: The LAW&ICT Encyclopaedia (LEFISpedia) main Webpage.

Advancing in this direction, the LAW&ICT Encyclopaedia (LEFISpedia) is a moderated and supervised scientific multilingual collaborative dictionary on LAW&ICT with a strong concept tree and hypertext functionalities.

LEFISpedia is implemented on Mediawiki, the engine supporting Wikipedia, the famous and popular Internet encyclopaedia.

The LAW&ICT Encyclopaedia will have ISSN to encourage and recognize participation. Regarding motivation, it is considered to be important for senior scientists to participate in any successful online encyclopaedia, as it has a serious chance to become one of the best and most consulted reference tools in the area. On the other side, junior and postgraduate researchers can quickly gain visibility and recognition by participating in such a project.

The editorial organization is formed by a scientific editor, a technical director, a panel of subject editors -forming together the scientific council- and reviewers, which in the future will be differentiated in an editors' panel and a reviewing one.

It is being considered to hire assistant editors to include previous definitions by important and relevant authors, from works with free copyright or gaining permission from authors or editors (with proper recognition). Assistant editors would be responsible for interlinking entries among them and

with other external documents. Copyright recognition is, of course, considered a key quality topic.

All the authors must be identified. They can be either self-appointed candidates, nominated by any person or body, or invited by any member of the scientific council. Their participation is subjected to approval by the scientific council.

The LAW&ICT Encyclopaedia will be open to public participation using forums and comments with standard netiquette.

4.4 The LAW&ICT LEFIS Classification: A Common Architecture for IR

The LAW&ICT LEFIS classification is aimed at providing a shared systematic conceptual mainframe for the virtual campus. Therefore, it is being used both at the courses, the digital library and the Wikipedia.

It is a faceted (Ranganathan, 1967) and expandable classification that has currently 75 classes. The classification is based on a methodology of faceting concepts for applied social science domains that has been developed in previous projects (García, Galindo, Lasala y Yubero, 2005; García, in press).

It has six trees addressing domains (society, rights and duties, commerce, and government), procedures and tools (politic, legal, managerial, educational, technological and research-oriented), agents (generic and individuals), perspective (discipline, ideology), frame (space and time), and form and media (language, form, media and type of document).

Each document is indexed for eleven facets and subfacets: domain, procedures, actors, perspective, time, place, multinational, national, spatial scope, language, form, media, and type of document. The order of the facets produces the citation index or ordering string for the document. It is possible to assign more than one term in each facet, though one has to function as main one for classificatory purposes.

5 THE IDENTIFICATION SYSTEM

One of the problems risen when designing the technical solution for the LAW&ICT Shared Virtual Campus Website was the way that users with privileges to access to some of the information and functionalities (mainly teachers and students) would be

identified, remaining a part of the contents for public access.

Because of the previous works, the research group already had developed an identification module based on digital certificates to substitute the identification mechanism of Moodle based on the pair user-password, as well as a Public Key Infrastructure (LEFIS-PKI), based on open standards (X.509, SSL, S/MIME), to manage the provision and maintenance of digital certificates.

For this project, authentication module is been updated, using webservices instead of the POST/curl method, as the way to access the AuthMgr PKI system of the LAW&ICT Shared Virtual Campus Website.

Also, we want to extend the identification by means of digital certificate to limit the access to a private part of the LAW&ICT Digital Library. To this end, a wrapper for redirecting certified user to the resources in the digital library is been developed, this is to say, an authentication module to integrate LEFIS-PKI and Greenstone, in the same way as LEFIS-PKI and Moodle are.

The third tool, LEFISpedia, remains free access for everybody searching information about Law and ICT.

6 CONCLUSIONS

Development and innovation is being carried out in the integration of e-learning, wiki, digital libraries and PKI software to provide an integrated environment for knowledge representation, organization and sharing in the field of Law and Information and Communication Technologies.

ACKNOWLEDGEMENTS

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