Секция 3. Информационная образовательная среда вуза

Prof. Thomas Koehler, Dr. Lomovtseva Natalya
GENERAL OVERVIEW OF THE E-LEARNING AT THE SAXONY
Thomas.Koehler@tu-dresden.de, Nlomovtseva@yandex.ru
Technische Universitat in Dresden, Germany,
Russian State Vocational Pedagogical University, Ekaterinburg, Russia

Today, many universities around the world give e-learning services via internet. The developments around the e-learning at universities in Saxony has increased vigorously in recent years. This paper reflects of general overview of the E-Learning at the Saxony. Now more 50,000 members of eleven Saxonian colleges and universities are currently as a common educational environment uses sharing the OPAL learning platform, which makes the system one of the most frequently used e-learning technologies in the Germany.

1. Introduction

"Distance learning is a teaching method of the future. And the future is now". (*Source:* http://www.forum-distance-learning.de/fdl_3fa783dd3759.htm). Over the past few years eLearning has developed continually in Germany's universities and colleges of higher education, and everyday student life in any subject area is hard to imagine without learning and teaching using modern ICT media. Since 2000 the Federal Ministry of Education and Research (BMBF) provided more than 230 million Euros support for well over 100 projects on development e-learning in Germany. The funding was initially channelled primarily into the development of eLearning content (*Source: Christoph Revermann eLearning in research, teaching and further education in Germany TAB report no. 107. Berlin 2006, 300 pages*).

The according to the research most German universities (87%) offer online material accompanying presence lectures to their students. Results show that that bigger universities use more e-learning than smaller ones. One hundred per cent of the universities with more than 5000 students use digital material accompanying lectures. Similar results can be found with respect to interactive learning material (71-95%), virtual seminars and tutorials with online collaboration (44-76%), online lectures (44-76 %) and virtual practical (25-43%). The fact that over 23% of the bigger universities offer whole programs of study online is remarkable (*Source: National report Germany Report on the situation in e-learning in Germany Focus: Socio-cultural aspects and e-contents*). The universities use e-learning for improving teaching and service for the students to acquire a higher level of satisfaction and better success of the students rather than for reducing capacity shortages. Furthermore, the use of e-learning is attributed to increasing the university's reputation.

One example of the introduction of e-learning at German universities is the Technische Universitat in Dresden in the Free State of Saxony. In TU Dresden on the Summer semester 2012 chek in e-learning student about 22.000. In the summer semester 2012 views was registered of e-learning courses 1,260,698 at Technical University of Dresden.

2. History e-learning in Saxony

In present time use e-learning more than 45.000 chek in student (the summer semester 2012 - 44.856) in the whole of Saxony.

The universities of the Free State of Saxony, in 2001 made the decision to build common structures and technologies for implementing e-learning activities. The goal was to create by pooling resources and exploit synergies. This nationwide initiative funded project was initially under the name

"education portal Saxony" with the financial support of the *Saxon State Ministry of Science and Art (Das Sächsische Staatsministerium für Wissenschaft und Kunst –SMWK).*

The Free State of Saxony exists is home *five universities* (Technische Universität Chemnitz, **Technische Universität Dresden**, Technische Universität Bergakademie Freiberg, Universität Leipzig, Internationales Hochschulinstitut Zittau), *five technical colleges* (Hochschule für Technik und Wirtschaft Dresden, Hochschule für Technik, Wirtschaft und Kultur Leipzig , Hochschule Mittweida, Hochschule Zittau/Görlitz, Westsächsische Hochschule Zwickau, Fachhochschule der Sächsischen Verwaltung Meißen, Hochschule der Sächsischen Polizei (FH)) and *five art colleges* (Hochschule für Musik Carl Maria von Weber Dresden, Hochschule für Musik und Theater "Felix Mendelssohn Bartholdy" Leipzig, Hochschule für Grafik und Buchkunst Leipzig, Hochschule für Bildende Künste Dresden, Palucca Hochschule für Tanz Dresden).

Despite some organizational and technological changes since 2001, the Saxon university players have until today the strategic direction – can maintain – providing a learning platform available nationwide. One result of these initiatives, the implementation of the central learning platform OPAL (online platform for academic teaching and learning) is. OPAL is the central learning platform of the Saxonian universities. The learning platform OPAL is was developed as well as a central web portal by the BPS Bildungsportal Sachsen GmbH. The BPS Bildungsportal Sachsen GmbH has been founded by eleven Saxonian colleges and universities in 2004. The actual purpose of its formation was to support colleges, universities and universities of applied sciences of the Free State of Saxony in the use of new media for everyday university life. The BPS Bildungsportal Sachsen GmbH continued central IT services which have been established in the academic joint project "Bildungsportal Sachsen". Courses and Learning Materials all participating universities are accessible through OPAL.

OPAL is technologically based on OLAT, the open source learning management system. Existing technical functionalities, controls and mechanisms for the authentication of OLAT have been extended with OPAL and have therefore been adjusted to the specific needs of the Saxonian universities.

In present time registered OPAL users: 80.000, and registered OPAL course: 7.500.

3.   Details on OPAL

The details on Opal is:

1.   Uniform authentication via Shibboleth for registration on OPAL via single sign-on.
2.   Access control on contents on the basis of user attributes from university databases.
3.   Uniform user interface at all Saxonian colleges and universities.
4.   Advanced help functions for the effective use of OPAL.
5.   Integration of the additional e-learning services MAGMA and ONYX Testsuite.

The central learning platform OPAL works with three different group sizes that allow a cooperative division of labor and learning, working and creating and managing digital learning resources. For example:

• *learning groups* in OPAL are always linked to a course or a learning resource. On membership of groups of learners in the learning management system, OPAL can access and visibility to learning resources or individual course elements, such as Enrollments or educational materials are controlled.

- *learning areas* it is possible to study groups consolidated into one meta-group together. As learning groups also can be used to control the learning areas access to learning resources and course elements and addressed.

- *working groups* irrespective of learning resources and courses of each OPAL users are created. They are therefore an excellent tool for the student self-organization and group work independent of resources and groups (such as learning groups) that can be managed only from authors.

- *rights groups* such as learning groups tied to a learning resource. They are part of the rights management, which controls the assignment of rights in the course editor and the management group. Rights groups on other users, authors specifically rights groups, course and / or management review, its learning resources without assigning them to be responsible and to thereby participate fully equal to administrators of their own learning resource must.

- participants in *group management* can be any OPAL users. All own memberships are available through, my groups'. Who is participating, is the responsibility of that, who set up the group and managed via its group management. The entry of participants can individually, via a list or by enrolling module. For each group, also can tutor will be appointed and registered. You get this feature rights group management, ie Participants can and unsubscribe are simultaneously visible but also as a partner in the group.

- *group tools* in OPAL can be made about the various group management tools to support communication and collaboration between the participating group members and advisors of the respective group.

for students using web-based communication tools (forums, email, chat, etc.) for discussion and exchange of information. Download easily scripts and further learning resources for lectures. Open own groups to provide a common access to learning resources in an efficient and structured way.

for teaching staff creating individual courses for students and provide learning resources Tests enable you to easily and efficiently evaluate learning progresses of students. Assessments are done by OPAL. An intelligent release mechanism enables you to define access rights for other participants.

4.   Magma and Onyx

As previously stated the platform Opal integrates of the additional e-learning services such as MAGMA and ONYX Testsuite.

Use Magma to easily publish and efficiently use audio and video files for online learning content and websites. Magma is powerful web based application and allows to store, edit, convert, search and deliver audio and video files. Users from educational institutions, media centers and companies can use Magma without any prior knowledge and publish online single medias or synchronized media sets – if needed even including an access restrictions. Magma offers to publish media with access-protected on the Internet.

The MAGMA offers following:

- Magma contains an online media administration with search function and individual media center;

- Metadata of media can be partially-automated evaluated;

- A/V media can be annotated with any number of chapter marks;

- Search function allows finding and using of erlauben A/V media;

- Common media objects are administrated by a central authorization concept;

- Audio and video files are automatically converted into Internet compatible formats;
- Conversion of A/V media can be done in several quality levels;
- A/V media can be provided access-protected;
- Existing systems (e.g. LMS) are connected via web service APIs;
- Delivery of media via Flash (progressive download) or real time streaming protocol (rtsp);
- Up to 6 A/V media can be flexible connected and delivered synchronically, e.g. combination of presentation, audio and video recordings;
- Chapter marks allow a quick navigation in a media set;
- A/V media can be arranged by the final user according to his needs in a browser compatible player.

Composed of independent components the *ONYX Testsuite* proposes the greatest possible flexibility and is easily integrable in existing system and learning environments. The whole ONYX Testsuite is based on the international recognized IMS Question Test and Interoperability (QTI) v2.1 specification. This enables the re-use and the system-independent application of your valuable test contents and guarantees the maximal investition protection.

- Use the ONYX Editor to easily and intuitively create IMS QTI compatible tests, exams and surveys.
- With the ONYX Player you have a professional IMS QTI v2.1 player at your disposal. Deliver your tests, exams and surveys securely and make use of the wealth of options for controlling tests and automated grading.
- The ONYX Reporter enables individual and group-specific overviews and graphic analyses of all test and survey results. Use a variety of detailed views to get an overview of your IMS QTI reports.
- The ONYX Converter enables you to easily convert your existing item and test data. Convert test formats (e.g. Blackboard, WebCT or OLAT) into IMS QTI 2.1.
- System requirements for MAGMA and ONYX:
- Windows XP;
- Windows 2000;
- Windows 7;
- Windows Vista.

Supported are Intel and 100 compatible processors. It is recommended to use a Pentium processor with 1GHz or higher and a RAM of at least 256 MB. You should dispose of at least 200 MB of availabe hard-disk space.

5. Conclusion

Every day, universities and even other educational institutions have put e-learning concept in curriculum. Researchers and experts in this field have made studies on using e-learning applications widely in primary, secondary and all the academic institutions. Today, the spread of internet has made e-learning people's favorite within the scope of lifelong education.

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А.Н. Алфимцев

ТРЕБОВАНИЯ К МЕТОДОЛОГИЯМ ПРОЕКТИРОВАНИЯ ИНТЕЛЛЕКТУАЛЬНЫХ МУЛЬТИМОДАЛЬНЫХ ИНТЕРФЕЙСОВ ИНФОРМАЦИОННО-ОБРАЗОВАТЕЛЬНЫХ СИСТЕМ

alfim@bmstu.ru
Московский государственный технический университет им. Н. Э. Баумана, Москва

Analysis of the evolution of user interfaces shows that over the last fifty years have irreversible and focusing on software and hardware interface, which is accompanied by improved computing performance, the transformation of the interface, the formation of new input and output modalities, and the increasing role of intelligent algorithms. However, survey of most popular system design methodologies for intellectual interaction had shown that these methodologies do not satisfy the basic requirements of the intelligent software design.

Анализ эволюции пользовательских интерфейсов показывает, что за последние пятьдесят лет произошло необратимое и целенаправленное развитие программной и аппаратной частей интерфейса, которое сопровождалось повышением вычислительной производительности, преобразованием средств интерфейса, формированием новых входных и