EXPERIENCE WITH OPAL – A WEB-BASED PLATFORM FOR ACADEMIC LEARNING AND TEACHING

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The most essential features of the web-based platform OPAL for academic learning and teaching are described. Two-year experience with this system in the education process for more than 400 students of economics, business administration, and business information systems is reported. It turns out that OPAL is a powerful means for managing academic education.

Key words: academic learning and teaching, interactive learning, web-based platform.

1. MOTIVATION

Within the last two decades an enormous increase in the development and application of computer and information technology was observed. Along with this technical progress the Internet as a means of global communication as well as of a vast source for information has a tremendous influence on the way of academic learning and teaching.

The present generation of students and researchers not only is accustomed to the handling of the Internet, but it is also naturally attracted by the new possibilities of knowledge sharing. With that a high level of motivation comes along.

All in all it is evident that the way of learning and teaching changes. In this article we intend to highlight the described development at the example of the web-based platform OPAL used at the universities in the German state of Saxony in Germany. Both, the support of student's administration and the possibilities for interactive learning besides lectures are considered.

2. THE ON-LINE PLATFORM OPAL

2.1. INTRODUCTION

The name OPAL as an abbreviation for "On-line Platform for Academic Learning and Teaching" was introduced in the year 2001 within a joint project of the universities of Saxony which was supported by the German state's government. The platform is based on the OLAT system ("On-line Learning and Training") [2], an open source system developed by the University of Zurich at the section of computer science. A free access to OPAL is guaranteed to all students and university staff. Maintenance and central support is offered by an OPAL team which also provides an on-line documentation and help via telephone, e-mail, FAQ and Internet forums. In 2007 OPAL was already frequently accessed by approximately 17,000 users, the number of guests is constantly growing.

2.2. ACCESS AND LAYOUT

Due to the development as a pure web-based platform, OPAL can be used by any type of computer and operating system. The corresponding web page can be opened by a web browser without additional installing software, so that the access is possible from university, office or home PC. In Fig. 1 the start page of the OPAL course for students of business administration and economics at the Chair for Business Mathematics of Chemnitz University of Technology can be viewed as an example.

The authentication of a user is realized by central login page which serves the protection of parts of OPAL with restricted user access as well as the protection of sensitive data such as e-mail address, matriculation number, and so on.

Users are attracted by the modern interface based on up-to-date Internet technology. The application of OPAL is facilitated by a clear and structured layout. All features of the platform are designed as block parts. Each block is connected with a defined layout, a range of possible user interactions as well as a set of parameters which can be altered by the owner of the block. Several blocks are combined to a course that can be offered either to all OPAL users or restricted to a specific group of people (e. g. all students of business administration that started their studies in 2010). The concept of blocks and courses is appealing to teachers and students as well. The last-mentioned concept benefits from the clear structure and the homogeneous handling of the platform. Teachers are enabled by OPAL to create courses as collections of different content (pure text, downloads, tests, …) in short time. Basic insights in computer usage are necessary for this design, but no further skills such as for programming are required. The distinction of OPAL to similar systems lies in the manageable range of functionality which can be applied by a broad variety of users, where other systems that offer full complexity are only operable by experts. The price for this easy usage is the limited amount of flexibility which, however, is sufficiently comprehensive.

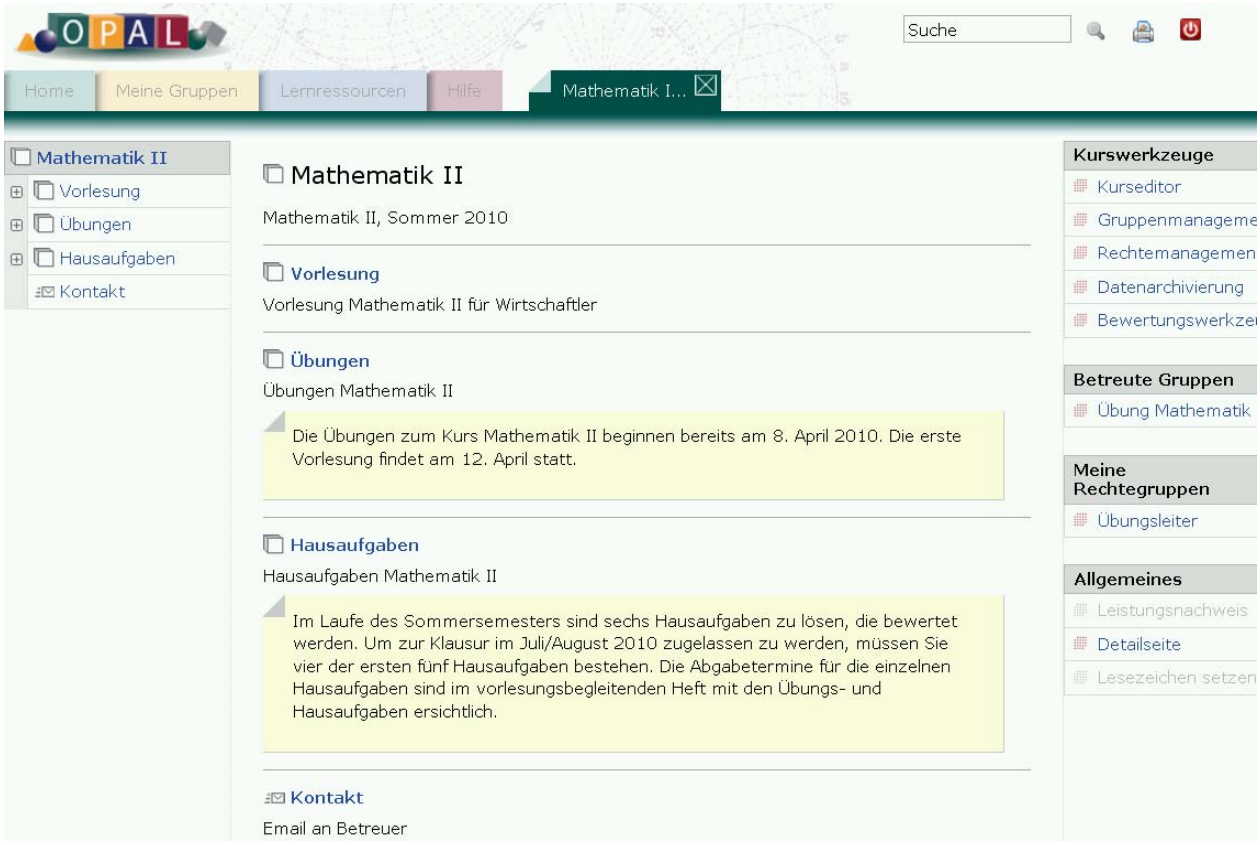

Figure. Start page of the OPAL course for students
of business administration, economics and business information systems
(spring semester 2010, Chair of Business Mathematics, Chemnitz University of Technology)

2.3. TRANSPORT OF INFORMATION

Several block types exist that transmit knowledge to the users of OPAL. First of all, a standard web page can be included: either by upload from an external source or with the help of the integrated page designer. Secondly, it is possible to link to any existing web page to provide further information. Additional data such as pdf documents or Power Point files can be supplied for download. Similar to all other blocks the access can be restricted if sensitive data should only be offered to a limited group of users. Another set of blocks realizes the integration of multimedia content (e. g. videos, sounds, …) and offers an interface to other learning platforms.

2.4. INTERACTIVE LEARNING

Contrary to the previous mentioned blocks which purely transmit information, the blocks of this section allow communication in multiple directions. Firstly, teachers can examine the knowledge the students have acquired so far. Small tests can be executed by questionnaires (multiple choice tests as well as free text tests where the answers are sent to teacher are supported). Secondly, a direct contact from the students to their supervisor is provided by e-mail or chat. Furthermore, news can be shown for all blocks. Users can register a RSS-feed and are informed as soon as news appear on the web page. The blocks of interactive learning are completed by a wiki and a user forum which can be enabled for each course.

2.5. ADMINISTRATION

OPAL can assist university staff by the administration of lectures with many participants. The registration process for students into a tutorial or seminar group is facilitated by special blocks within OPAL. With on-line registration users benefit from an updated list of free places in a tutorial and teachers always have available the overview of participants. Administration is furthermore supported by the possibility of publication of user-dependent results such as for homework, tests and exams.

3. EXPERIENCE WITH OPAL WITH RESPECT TO EDUCATION OF STUDENTS OF ECONOMICS AND BUSINESS ADMINISTRATION

At the Chair for Business Mathematics of the Chemnitz University of Technology the basic math education is carried out for about 400 to 500 students of business administration and economics each semester. The challenges lies in the high administration effort connected with such a high number of students. Besides lectures which give the theoretical background the students are grouped into ten tutorials (offered at different times). The registration process is realized with the help of OPAL for two years now. It turned out that the new system compared to the old registration on paper reduced the amount work tremendously. In particular, it is a beneficial effect that the students can change tutorials without a visit to the professorship. Since students have available very good Internet access at home, in the University's dormitories or in computer pools at the campus, the OPAL system was accepted very fast.

Besides the registration, information about important dates is spread via OPAL which decreases the number of students' e-mail requests. Furthermore, the tasks for the regular homework are published on the platform. The students have to pass at least four of five tests successfully to get permission to take part into the final exam. The tests are checked by students of higher semester and the results are reported into OPAL. So, students and supervisors can check the status of permission at any time.

4. SUMMARY

In this article a web-based platform for academic learning and teaching was introduced. Thanks to the rapid development of Internet technology and a high motivation of the students the advantages of the new way of communication can be used easily for administration and interactive learning.

The OPAL system assists university staff to prepare on-line courses for their students. Due to a limited number of elaborate blocks with few parameters the creation of courses can be accomplished with basic skills in computer usage. The safety of sensitive data is ensured by user authentication and the possibility of data protection.

At the Chair of Business Mathematics of the Chemnitz University of Technology OPAL was successfully introduced. Currently, the system is used for registration of students, publication of test results and general announcements to students. In future, it is aimed to extend the part of interactive learning and teaching with OPAL considerably.

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