



21-ე საუკუნის მეცნიერებისა და ტექნოლოგიების
ბანვითარების ძირითადი პარადიგმები

**BASIC PARADIGMS IN SCIENCE AND TECHNOLOGY
DEVELOPMENT FOR THE 21ST CENTURY**

ფართობი

II

TRANSACTIONS

2012

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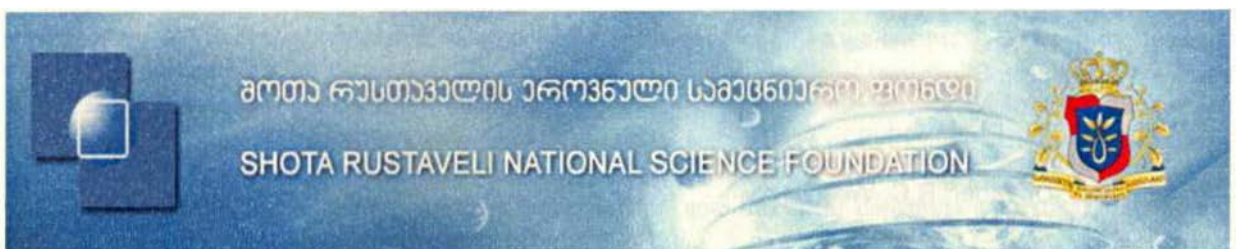
II

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for the 21st Century**

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DEVELOPMENT OF AN INTEGRATED UNIVERSITY MANAGEMENT AND STUDENT RECORDING PLATFORM TO SUPPORT INTERNAL QUALITY ASSURANCE SYSTEM

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Resume: In the paper we give the insight in the development of the modern digital university management and student records and information platform ORTUS and its role in supporting the internal quality assurance system at the Riga Technical university (RTU). RTU is the oldest university of Latvia with specialisation in Engineering, ICT and Natural sciences and also Economics, Entrepreneurship and Architecture. RTU has more than 16 000 students and about 800 academic staff. ORTUS system allows access of students, academic staff and other employees to the e-courses, regulations and rules, project management system and science information system that includes all publications and other research outcomes of the RTU staff. Currently students are members of unified university's Moodle system, and they have a possibility to choose of about 2500 different subjects. ORTUS system includes also e-mail system for all students and staff, as well as actual news and other information, as well as room planning system. The RTU student survey system in ORTUS environment as an important part of internal quality assurance is discussed.

Key Words: management system, internal quality assurance, student information system,

Introduction

In the last century global challenges and new demands for the providers of higher education have been increased tremendously. Global dimension and fast development of technologies have caused increased expectations from student and society side to internal governance and leadership of universities. The complexity of the higher education institution (HEI) management has increased also due to the marketization of higher education. The role of universities is changing – besides the traditional fields - studies and research, the third mission, like participation in lifelong learning, innovations, collaboration with industry has to be on agenda of a modern institution. Also student body is changed largely; the

role of IT technologies in socialising and learning processes is still increasing. New methods of learning and teaching, such as distance learning, project based learning is already very common practise [1].

Due to the higher requirements to the quality of education and fast developments of different accreditation and quality assurance procedures, the internal university quality management system is a must if university tend to be a serious player in a globalised higher education market. Also increased role and variety of different rankings that play an important role in competition for students, creates a need to provide different statistical data about the university activities sometimes in very short timeframes.

Despite all these circumstances put increased demands to the internal university management systems, not all HEIs have common IT platform for studies and management. The first e-learning initiative, RTU with its more than 16 000 students and 900 academic staff, started at 1997, when in Phare project RTU Center of Distance Education developed the first e-learning platform. Today the center is carrying out number of research projects in e-learning technologies and delivering doctorate program: E-learning Technologies and Governance. On 2006 first university wide initiative was started to provide common e-learning platform and necessary support to implement blended learning. Now RTU has created integrated university management and student recording system ORTUS that plays an important role in supporting the internal quality assurance system. ORTUS system allows to access students and academic staff to the e-courses, legal base, project management system and science information system that includes all publications and other research outcomes of the RTU staff. Currently Students are members of unified university's Moodle system, and they have a possibility to choose of about 2500 different subjects. ORTUS system includes also e-mail system for all students and staff, as well as actual news and other information, as well as room planning system.

Short description of the management system

The components of ORTUS management environment are: university portal, course management system, student records management system, directory service and network [2]. Student records management system is the source for student registrations. The approach was to use the student records to open new e-course each semester in the course management system and register responsible faculty and students. Next, the university portal is a gate to all university systems. The platform of E-studies system was in Moodle environment (Modular Object-Oriented Dynamic Learning Environment), and therefore it was much easier to integrate in the common system, by ensuring Lightweight directory access protocol (LDAP) authorisation. For the access to the Moodle system open source portal uPortal is used. uPortal is open source solution and it uses such technologies like Java, JSP, XML, J2EE. ORTUS allows access for both, RTU internal user groups and external users. Internal users are students and staff, external – potential students, alumna, guests and partners. RTU users have a joint identity. RTU digital identities are stored by LDAP directory service solution OpenLDAP. Using repository of identities the Single Sign-On authorisation is ensured. As a result the users have impression of integrated system, allowing free navigation from uPortal to Moodle and e-mail without request to repeat the login.

The parts of the ORTUS are: *News, Work, Studies, E-courses, Regulations and rules, Projects, Science, Resources, and Profile*. "News" part is accessible only for internal users. It contains the respective links to the RTU forum, Joint identity management system, e-mails, home page, as well as links to the other information systems of RTU.

The part "News" contains the personalised news publishing system. Using news publishing system, it is possible to inform chosen task groups directly by using multimedia tools. It allows also searching by key words. It includes also such channels like birthdays, weather reports (AccuWeather), contact search. Every staff member can edit the contact information in his profile.

Part „Work" is accessible for every person employed in RTU. There are two fields under this part: Information and Salary calculator.

Part „Studies" is foreseen for every student at RTU. The students can access only the channel about study information, containing student data and respective decrees, invoices about use of dormitories, all information about study courses, including their content. RTU academic staff and leaders can access also study course register that ensures also application to new courses, search of courses etc.

Part "E-courses" has the channel "My courses", that includes courses of last 5 years and every course has link to the respective course page in e-study system, so it is possible to open the courses directly. There is also the part "Guidance" with the frequent questions part. It is possible to apply to certain training courses using the channel "Training". There is also a Message board with additional possibilities.

In the channel "Guest invitation", the users can invite somebody to their e-courses. The channel "Creation of course" allows the users to create their e-courses. The part "Regulations and rules" contains internal normative acts. The system allows searching and quick links.

Part "Projects" is accessible to all RTU employees and contains such channels as project management system, recent projects, project competitions etc.

“*Science*” contains Support system of scientific activity, and it is accessible to RTU staff. The scientific publications database is fully elaborated but the Expert and Patent data bases are still under construction. System is realised in compliance with CERIF (*Common European Research Information Format*).

“*Resources*” is accessible to all groups of users of ORTUS; it contains links to all data bases, starting from news agencies, as well as data base like EBSCO, RUBRICON etc.

The part „*Profiles*” contains information about the user’s identity in the virtual space of RTU. The users can change the password, apply for RTU e-mail, change the e-mailing options and posting regimes, choose the cover name for messaging and forum discussions, apply for a problem to the IT support centre, change photo and the contact information.

Student survey system- the core of the internal quality management system

Since 2009, ORTUS support RTU quality management system (QMS). The principles of RTU QMS are:

quality policy and procedures,
approval, monitoring and periodic review of programmes and awards,
assessment of students,
quality assurance of teaching staff,
learning resources and student support,
information systems,
public available information.

Internal quality assurance system includes regular self- assessment. The self-assessment reports are reviewed and approved by the Industry Curriculum Committee, comprising representatives of employers. Each self-assessment report is submitted to the expert for evaluation. For the evaluation the experts are asked to use agreed system of criteria. Later, the assessment results are reported to and approved by the RTU Senate. The special Study Quality and Programmes Commission by the Senate reviews and approves all regulations in respect to study programmes and procedures. For example, the qualification requirements for professional study programmes have to be in correspondence to approved occupational standards. Also the Industry Curriculum Committee has to approve course syllabus and learning outcomes. Programmes directors and faculties have to produce the annual report on study process development including SWOT analysis.

Important part of the self-assessment is student surveys. The Regulations on student surveys has to be approved by the Senate. At the end of every semester and at the end of their studies, the students are asked to fill in the questionnaire for each course in the ORTUS environment. They have to give not only the course evaluation but also the judgement about the personal style of the academics. There is also suggestion part for further amelioration of the study process. For academic staff, the system gives the possibility to add important and actual questions to the questionnaires. Questionnaires are anonymous. The results of survey are open for the consideration of the staff and leadership. Students themselves have access to the aggregate results. The statistical aggregate results are also published.

In the academic year 2011/2012, the increase of number of students participating in the questionnaires was observed. The best response rate of 74% was observed from students of Faculty of Computer Science and Information Technology, the second best was of the Faculty of Electronics and Telecommunications of 65%, and Faculty of Materials Science and Applied Chemistry – 63%. The 8484 responses are received about the voting for the best academic staff.

Conclusion

The ORTUS environment is proved as the unique and modern possibility to manage all complex university management processes, including internal quality assurance system in particular. Open source approach can be assessed as a right approach giving enough openness, flexibility and space for the further development and expansion of functionality. The yearly increase of student activity in student surveys and increasing participation rate ensures that the internal quality system is working towards the full implementation.

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