Case study: IT Department, Faculty of Natural Sciences UKF Nitra

Informatization of our societies reflects in significantly increased level of acceptance of information and communication technologies in the life of universities and educational institutions. IT as a field of study is a leading force in this process, applying the latest trends and technical findings in education of specialists through attendance and distance studies.

The IT Department of FPV UKF in Nitra as a specialised facility for educating teachers and specialists in Applied Information Technology makes use of the internet in connection with a new method for on-line education with e-learning support. The on-line education method implemented by the IT Department has helped to engage students in the learning process and eliminate problems with student attendance and availability of study materials, such as textbooks and other literature. On-line e-learning makes students' time management easier.

Customer description

The IT Department FPV UKF educates students of Master study programs in teaching following subjects: Maths, Physics, Biology, Chemistry, Geography, Pedagogy, Psychology, Ecology, Environment, English, German, Introduction to Technology, Arts and Physical Education. In addition, the department organises daily and distance studies in Applied IT.

As a part of scientific projects and grants, specialists of the IT Department designed methodologies and e-learning courses and these have become a crucial part of education not only in distance studies, but also an indispensable supplement of daily studies of Applied IT and Academic Subject Teaching combined with Information Technology.

Current status

The objectives for launching electronic education in the IT Department were as follows:

- To use e-learning as one of the supporting elements alongside conventional forms of education
- To facilitate students' individual study
- To provide easy and fast access to new information

Some of the existing e-courses were made available not only for students of distance courses (approx. 160 students), but also for students attending in-house studies. In-house students can access LMS from three computer rooms using a shared log-in account. LMS is used as an interface for accessing study materials.

The i-Tutor system is implemented on a server with the following hardware configuration: 2 x Intel Pentium 4-2.8 MHz, 1 GB RAM, 50 GB disc space. The server runs the Windows 2003 Server operating system and the MS SQL 2000 database system.

The IT Department of FPV UKF as a partner of Kontis carried out localisation of LMS/LCMS iTutor to Slovak and subsequently assisted in testing and verifying the LMS/LCMS iTutor system in an academic environment. This form of cooperation continues to develop in implementation of new projects with the aim to extend and improve the university's educational process.

Kontis Slovakia provided access to the iTutor control system including all modules to all students of the university and included a professional tool for course development LCMS iTutor CDS/Publisher.

Current courses

All courses are implemented in the LMS iTutor control system. The courses use unified templates with different colours to differentiate between individual types of skills. The unified form of courses is a very positive feature for students as there is no need to adjust to a new interface with every new course.

A wide variety of courses has been implemented, to name but a few – Logic Computer Systems and Internet Application Programming.

Logic Computer Systems

The aim of the course is to introduce students to the basic functions of electronic circuits and components, logic systems and programming products used in design of more complex units.

The course is designed for students in daily Master studies in Teaching combined with IT and students attending the Applied IT course. Students use the course as additional exercise and home preparation.

Students are divided into groups (9 to 18 students per group) to discus the topics covered and assigned tasks in a discussion forum.

All students can test their knowledge in an auto-test at the end of each lesson. Once a student has marked the selected answer,

the system provides feedback. If the answer is incorrect, the student can return to the relevant question and attempt an answer again. While these tests are optional, the final test at the end of the course is compulsory for all students. Test results are saved for the tutor and used for assessment of student's performance.

Internet Application Programming

This course is intended for students in the third year of Master studies in General Teaching combined with IT and students attending the second year of Bachelor studies in Applied IT. The aim of the course is to introduce students to the principles of the HTTP protocol, HTML language, cascade styles and basics of dynamic page programming in the PHP language.

The course includes a wide variety of samples with solutions. As a PHP module is also implemented on the server, students can view solutions for all samples included in the course directly in the browser.

After completing each lesson, students receive a

message with specification of tasks for the relevant lesson. They are required to program the task within a stipulated deadline and send the results back to the tutor. In order to pass the course, students need to deliver completed individual tasks within the specified deadlines throughout the term.

As students are required to complete one task for every lesson (10 tasks in total), we have made sure that individual assignments do not take up much time, yet address the topics discussed in individual lessons.

Future vision

FPV UKF plans to focus on designing courses with iTutor CDS/Publisher and thus eliminate problems with observing standards and expedite the process of creating courses. The university assesses its experience with implementing e-learning at an annual international conference DIVAI. In future the university will strive to extend the portfolio of electronic courses and involve as many students as possible in this system.

Statement…

Constantine the Philosopher University in Nitra and its departments identified the need for applying e-learning in the current teaching methods and most importantly, assumed a positive attitude to lifelong education in our society. Development of the infrastructure within the university and its computer network and application of multimedia technology in teaching make the university one of the leaders in e-learning application in Slovakia. The IT Department has played an important role in this success, working with the iTUTOR system from KONTIS and launching e-learning in IT tuition. Our cooperation with KONTIS is a solid basis for replacing the current forms of teaching in some of the specialisations covered by UKF in Nitra with "Blended Learning".

Prof. Ing. Milan Turčáni, CSc.
Head of IT Department