EDUCATIONAL PORTAL OF THE CZECH DENTAL CHAMBER

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Abstract

Paper shows new educational portal of the Czech Dental Chamber. The pilot samples of e-learning courses demonstrate the e-learning environment possibilities for potential students. Portal "moodle.apolenka.cz" is implemented into the Learning Management System (LMS) Moodle. LMS Moodle functions are illustrated by the basic statistics of portal running. The on-line connection between portal and payment gateway (PaySec) is described and explained. This interconnection enables user friendly payment (via electronic wallet) of selected courses from credit system.

Keywords: e-learning, Moodle, payment gateway, PaySec

Educational portal "moodle.apolenka.cz"

The educational portal of the Czech Dental Chamber (ČSK), with name "moodle.apolenka.cz", started on May 1st 2009 (see Picture 1   and [1]). The portal was implemented into the Learning Management System (LMS) Moodle environment (see [2]). The portal is dedicated to serve preferably the members of the ČSK. The portal courses are offered in two main forms, the credit courses and the non-credit ones. Courses contained in both forms are almost identical but there is a difference mainly in the testing procedure. The non-credit courses contain rather learning tests than exam tests, whereas the credit courses a vice versa. The second main difference is the payment in case of credit courses. The non-credit courses are opened with free access for any registered user.

Any member of the ČSK can become a registered user of Moodle educational system. The registration procedure is implemented via Lightweight Directory Access Protocol (LDAP) server authentication method. It means no applicant can access the system without administrator assistance. The main LDAP server of ČSK is used for the users' authentication. The Moodle system accepts only the username from LDAP server as the member number. An input of other information (first name, family name and others) is left up to the user after the first log into the system. This policy was implemented to prevent dissemination of the members' personal information outside of ČSK LDAP server.

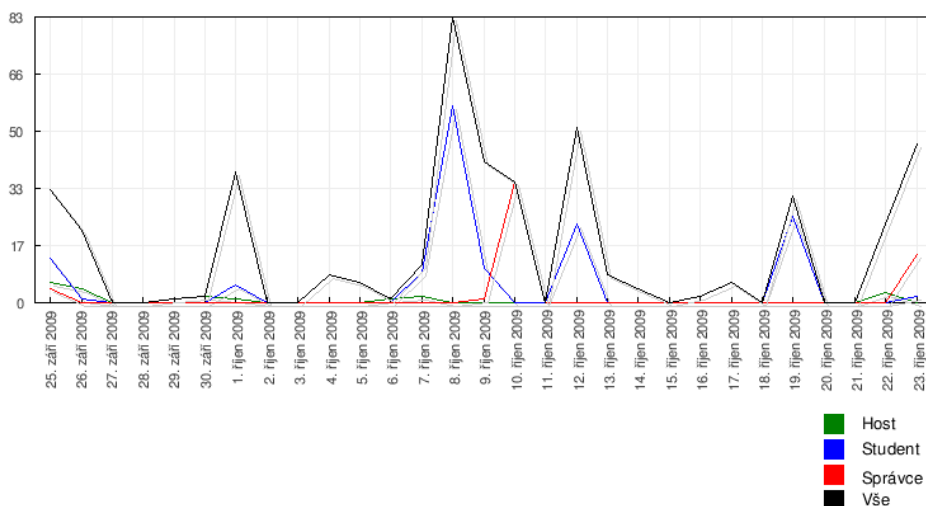Picture 1: Title page of the educational portal of the Czech Dental Chamber (Source: Gangur M., 2009)

This approach generates the problem with user identification as a consequence of some users do not fill the basic information (contact, first and family name and email address).

Since portal was launched until today, there were 165 new users registered to the LMS. Moodle system output is illustrated in both pictures 2 and 3 where selected statistics of the last month are showed.
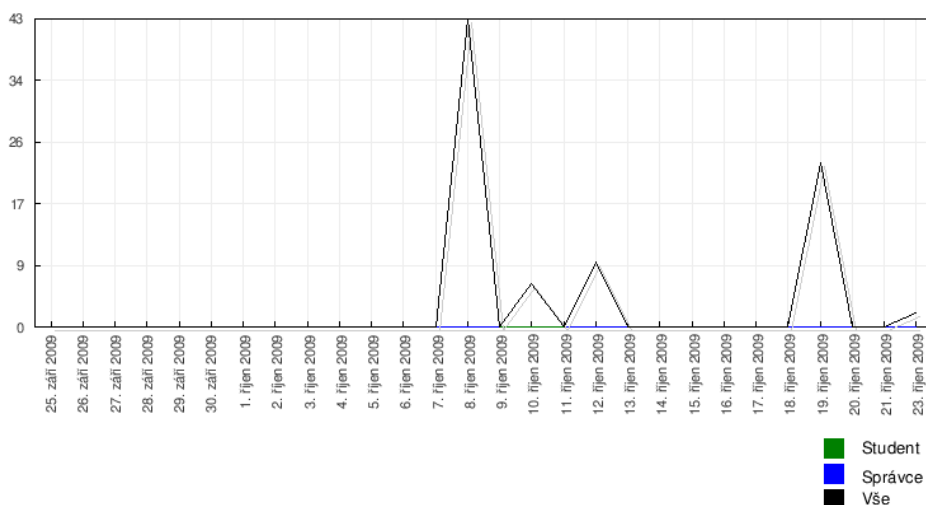
Course Categories

All portal courses are divided into eight following categories:

- Restorative Dentistry

- Prosthodontics

- Periodontics

- Pediatric Dentistry

- Oral Surgery

- Implantology

- Orthodontics

- Others.

Picture 2: Statistics of all activities on educational portal (Source: moodle.apolenka.cz)

Picture 3: Statistics of activities in selected course "Vyklenutí horního vestibulu" (Source: moodle.apolenka.cz)
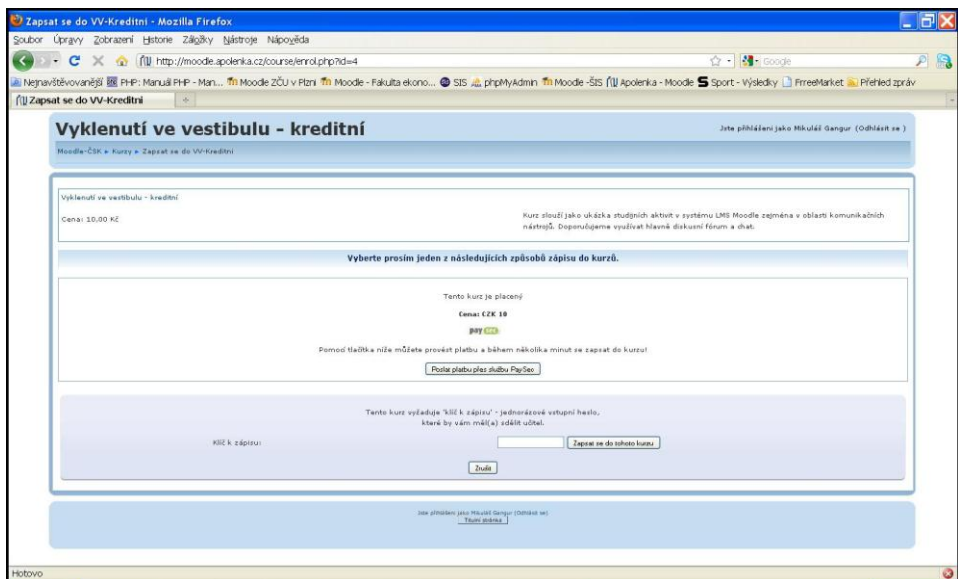
The most of the prospective individual courses are planned to be prepared in both the credit and the non-credit forms.

The portal operates in the test mode at this time. That is the reason why the portal offers only several trial courses for ČSK members. Nevertheless, portal contains also courses for potential course creators. Those courses show the basic features of LMS Moodle, the guideline of course creation and management and the recommended templates of course structure (see [3], [4], [5]). There are available, for

example, following courses: "Pericoronitis" by Jiří Zeman and Robert Houba; and "Vyklenutí v horním vestibulu" by Pavel Střihavka.

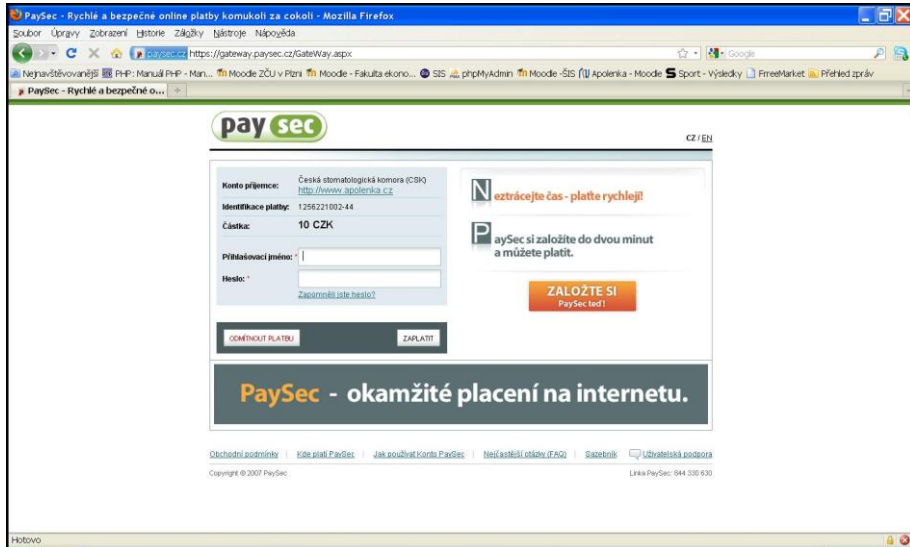## Payment for Course via Payment Gateway

The credit courses are planned to be paid by applicants. An applicant will pay not only for study materials in course, but especially for possibility to pass partial exams (built in LMS) and for the option to get prepared for next official exams. Credit courses can be identified by a price under the name of course. To implement an on-line payment, the Moodle option to create and integrate a module has been used. New module of PaySec payment was developed and implemented from PayPal payment module (see [6]). The payment is required in the enrolment process within the first access to the credit course. Picture 4 shows the enrolment form in the paid course.
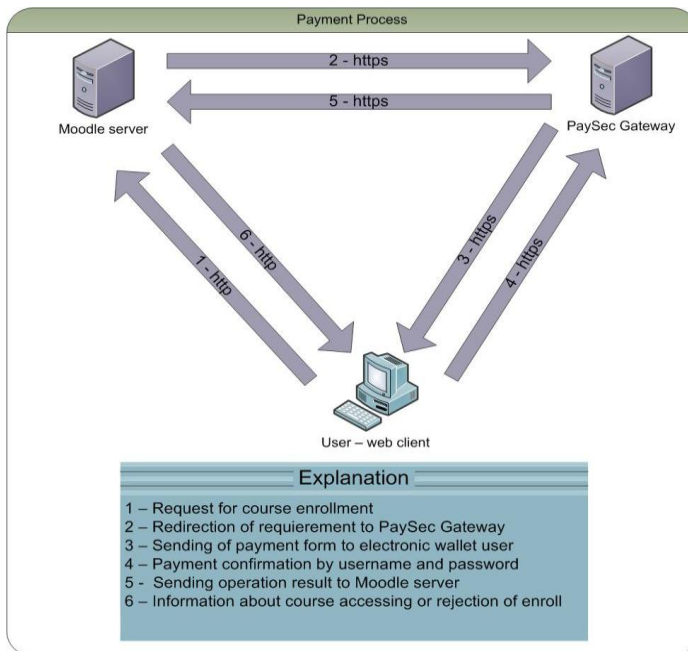

Picture 4: The form for course payment (Source: Gangur M., 2009)

The most important information in that form is the course price and the button of starting payment process causing a redirection to payment gateway PaySec (see Picture 5). On this gateway, user fills out username and password. These settings authenticate his/her access to the electronic wallet (an account with users' money) (see [7]). The redirection of all processes to the secure and confident channel (between user's client application and gateway server application) is highly important for transfer security and portal credibility.

The whole secured communication is realized only between PaySec gateway and the user's web browser above SSL without any portal applications. The process is described in picture 6. The payment gateway returns answer in format codes to the Moodle system with respect to user's account state. Following the answer code, the user is either enrolled to required course or his access is declined (see [8]).

Picture 5: Page of payment gateway PaySec (Source: PaySec Gateway)

Picture 6: Payment process (Source: Gangur M., 2009).

Conclusion

New educational portal of the Czech Dental Chamber implemented into LMS Moodle has been presented. The online registering system connected to LDAP server of the Czech Dental Chamber and selected statistics of users' activities generated by LMS were shown as useful and usable option of LMS Moodle. The portal courses exist in two main forms, the credit and the non-credit ones. The courses are sorted to eight categories according to the dental specializations. Online connection between portal and PaySec payment gateway was introduced and proven as a reliable and secure payment system. Presented payment system, developed by author of portal, allows an online payment for selected courses via user electronic wallet.

References

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[7] *PaySec* [online] 20.9.2009 http://www.paysec.cz/

[8] *Příručka pro použití platební brány PaySec* [online] 20.9.2009 https://www.paysec.cz/CmsPage.aspx?Id=gatewayManual