

**COMPREHENSIVE ANALYSIS OF EXISTING LEARNING MANAGEMENT SYSTEMS  
(LMSs)**

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<b>Type of institution:</b>	<i>Independent institution</i>
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<b>LMS used:</b>	<i>Self-developed</i>
<b>URL of LMS:</b>	
<b>Language of LMS:</b>	<i>Czech</i>
<b>Number of years in use:</b>	<i>2-3 years</i>
<b>Other LMSs used:</b>	
<b>Number of students in the system:</b>	<i>Currently about 100 students</i>
<b>Number of courses available:</b>	<i>40 modules</i>
<b>Typical duration:</b>	<i>1 month</i>
<b>Number of tutors in the system:</b>	<i>20</i>

**The Czech-Swiss Institute** (CSI) started its activities mainly in the education field already in 1990 in the Czech Republic. The Institute is a member of HST- Handelskammer Schweiz – Tschechische Republik / Chamber of Commerce Switzerland – the Czech Republic and is also a founder of Higher Commercial Academy C.S.I., which belongs into the school network of the Ministry of Education, Youth and Sports of the Czech republic.

In 1997 the Institute launched a project aiming to enable study through Internet. The Institute decided with its own team of experts to work out their own private system, which would correspond to their requirements. Currently they can say, after time period of tries, mistakes and corrections, that they have managed to develop system, that is easy to use for students as well as for teachers and fully meets their needs.

*This analysis is divided into six parts.*

*1 Course development tools*

*2 Student support tools*

*3 Tutor support tools*

*4 Administration (student database and records)*

*5 Technology (quality of software)*

*6 Price*

## 1 Course development tools

The project work was started in 1997 by our own team and since then we have been running it as a independent institution. As we were developing the system on our own we were actually all the time learning from our mistakes. Each of the stage was applied in practice on a certain segment of users in order to improve immediately every step. Nowadays the system meets our needs and enables easy work for students and teachers. If it was not so, it would be impossible to have the system in operation, because our teachers are external specialists (mainly university teachers) and they would not accept complicated co-operation. They supply the courses with know-how (e.g. Maths, Management, Economics, Law, Accounting etc.) and our employee co-operate with the teacher as a scenarist. It means that we make the most of suggestions and corrections and after that the teacher judges the content correctness and efficiency. [CSI]

1.1 *Course creation.* How satisfactory was the LMS for course creation?

1.2 *Structure and didactic flexibility - openness.* In the creation of course materials did the LMS permit didactic flexibility? Was the structure open to differing didactic possibilities?

Yes it permits. [CSI]

1.3 *Teacher userfriendliness.* How easy was the LMS to use by teachers and course developers?

Yes, in the co-operation with a scenarist. [CSI]

1.4 *Support for graphics, audio and video, moving image.* Did the LMS support the provision of graphical materials, moving images, audio and video in the course content?

Graphical materials are as internal parts of every course, as well as audio, video will be yet completed. [CSI]

1.5 *Questioning, assessment, assignments.* What provision was made by the LMS for student questioning and assessment and the design of student assignments?

Various tests, always according to the nature and character of the certain course, the assessment is online and is an internal part of LMS. [CSI]

## 2 Student support tools

The feedback is supported by tests (according to the course nature) + chat, discussion forum and the e-mail. [CSI]

2.1 *Interactivity possibilities.* What provision does the LMS make for student interaction?

2.2 *Online student to student communication (synchronous and asynchronous).* What facilities does the LMS provide for student communication to other students and how successful is it? Is both synchronous and asynchronous communication between students supported?

2.3 *Online student to tutor/institution communication (synchronous and asynchronous).* What facilities does the LMS provide for student communication to the tutor ion to the institution's administration and how successful is it? Is both synchronous and asynchronous communication supported? Are these support services available 24 hours a day?

Yes, the asynchronous communication is available 24 hours a day and the synchronous communication 10 hours a day. [CSI]

2.4 *Resources, library, references.* What facilities does the LMS provide for student acquisition of resources required by the course, especially library resources and references to required readings?

According to the instructions and recommendations of the teacher. [CSI]

2.5 *Feedback on work and assignments.* What is the quality of provision of feedback to students on their work and assignments?

### 3 *Tutor Support tools*

See 1.

3.1 *Tracking students - database questions.* How user friendly is the LMS for tutors wishing to track their group(s) of students and retrieve data from the student database?

3.2 *Group management tools.* What facilities are provided by the LMS to the tutors for managing their group(s) of students?

3.3 *Preparation of questions and assignments by tutor.* How successful is the LMS in providing tutors with user friendly and didactically successful tools for the design of student questions and assignments?

3.4 *Course planning for students (monitoring pace).* What tools are provided by the LMS to tutors to enable them to monitor and plan student progress?

3.5 *User-friendly administrative systems between tutor and institution.* What provision does the LMS make for successful tutor to institution communication?

### 4 *Administration (student database and records)*

4.1 *Enrolment procedures and fee paying.* What facilities does the LMS provide for student enrolments, course allocations and payment of fees?

We apply bank account transfers for the payments. [CSI]

4.2 *Passwords and security.* How successfully does the LMS handle student access to the system and the security of all student interactions with the system?

4.3 *Student records database.* How successful is the system's student database, especially for data storage and data retrieval.

4.4 *Examination and certification records.* What structures are provided for recording of data and results leading to examination and certification?

The database is an internal part of the system. We also keep files saved. [CSI]

4.5 *Course, class and tutors database.* What facilities are provided for administration of courses, classes and tutors?

### 5 *Technology (quality of software)*

5.1 *Server - hardware and software options.* What is the quality of server hardware and software options? How is the system integrated with existing software?

5.2 *Client - hardware and software options.* What is the quality of client hardware and software options? Does the system permit meta tagging?

Various, according to the possibilities of the client. [CSI]

5.3 *Flexibility of didactic structure; updating, adaptability.* Is the didactic structure flexible or is it determined by the technology? How adaptable is the technology to updates and to new technology that becomes available to the market?

The system is flexible, there is no problem with the updating. [CSI]

5.4 *Limitation of size (number of students, courses, tutors..)* How satisfactory is the LMS for handling varying numbers of students, courses, tutors? How does it cope with 100, 1000, or 10000 students and large course databases?

5.5 *Speed of system.* How is the speed of the system and student satisfaction? How does it cope with downloading courses and high bandwidth materials?

## 6 *Price*

From the financial reasons we can allow us to employ just a few workers (currently 2) therefore the further development stagnates at the moment. The investments were about 1.1 Million CZK / 36,484 €, annual maintenance costs are about 300,000 CZK / 9950 €. [CSI]

6.1 *Cost of the LMS (Learning Management System).* What is the cost of the LMS to the institution?

Investments of 1.1 Million CZK / 36,484 €. [CSI]

6.2 *Annual fee.* What fees have to be paid annually for the system by the institution?

We have our own system, annual maintenance costs (server, fees etc.). [CSI]

6.3 *Student Enrolment fee (100 students, 1000 students, 10000 students.)* How do fees to use the LMS vary when the student base is 100 students, 1000 students, 10000 students? Is online invoicing available?

Online invoicing is available, but not used. Confidentially the fees will be changed. [CSI]

6.4 *Maintenance costs: staff involved in management, IT specialists, trainers, etc* What is the maintenance course to the institution of the LMS and what staff resources are need to maintain it and keep it functioning?

The staff is limited by the financial resources – the number is not satisfactory, an enormous personal engagement is required. Selected activities are accomplished by external specialists. [CSI]

6.5 *Training of teachers and learners and system users.* What costs are involved in staff and student training to use the LMS system?

\*counted with the Czech National Bank exchange rate from the 19<sup>th</sup> April, 2002; 1€ = 30.150 CZK (<http://www.cnb.cz/en/index.html>)

**Conclusion: Overall evaluation:**

**The system meets already, after our own development, our needs/expectations. It is easy to use for teachers as well as for the students. [CSI]**

**What features would you like to see included in this LMS in the future?**

**Just hope to have more financial resources to encourage the current stagnant situation. [CSI]**