

COMPREHENSIVE ANALYSIS OF EXISTING LEARNING MANAGEMENT SYSTEMS (LMSs)

Name and type of institution Virtuelle Universität Regensburg
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Name of training manager:.
LMS used: VUR, <http://planetux.org>

Other LMS used: Hyperwave Server
customized? self-developed: self developed
language of the system-admin: German,

numbers of years in use: 30.10.1999
transferability of the system? yes
Number and proportion of students involved 280
courses, subjects, duration 57 courses/semester
teacher, tutors in the system: 35

standardizations? meta-tagging,
statistical data on the system inquired: No of participants, begin, No of courses, identifying institution , range of courses, no. of teachers etc. proportion of staff engaged in this. experiences with upgrading, software support, new versions, customization, source code ownership etc.

<p><i>1 Course development tools</i></p> <p><i>1.1 Course creation.</i> How satisfactory was the LMS for course creation?</p> <p><i>1.2 Structure and didactic flexibility - openness.</i> In the creation of course materials did the LMS permit didactic flexibility? Was the structure open to differing didactic possibilities?</p> <p><i>1.3 Teacher userfriendliness.</i> How easy was the LMS to use by teachers and course developers?</p> <p><i>1.4 Support for graphics, audio and video, moving image.</i> Did the LMS support the provision of graphical materials, moving images, audio and video in the course content?</p> <p><i>1.5 Questioning, assessment, assignments.</i> What provision was made by the LMS for student questioning and assessment and the design of student assignments?</p>	<p>There is no course development tool because course development is responsibility of the authors with their own tools; the system is just a platform</p> <p>There is complete openness, our offer is a basic one, a video-framework and an audio framework where transparencies together with audio and video may be offered for those who dont want to invest a lot of work – in our platform you can offer everything possible with internet.</p> <p>Very user friendly: complete laymen con use it, you only have to know some internet procedures but no programming knowledge whatsoever.</p> <p>Everything, yes!</p> <p>We have no online assignment features because our system is meant for enrichment of traditional teaching, one could do it though, but traditionally assessment is done on campus.</p>
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<p>2 Student support tools</p> <p>2.1 <i>Interactivity possibilities.</i> What provision does the LMS make for student interaction?</p> <p>2.2 <i>Online student to student communication (synchronous and asynchronous).</i> 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?</p> <p>2.3 <i>Online student to tutor/institution communication (synchronous and asynchronous).</i> 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?</p> <p>2.4 <i>Resources, library, references.</i> What facilities does the LMS provide for student acquisition of resources required by the course, especially library resources and references to required readings?</p> <p>2.5 <i>Feedback on work and assignments.</i> What is the quality of provision of feedback to students on their work and assignments?</p>	<p>e-mail is not the mostly used feature but newsgroups, for communication it is the most used one and we do have good feedback about it.</p> <p>Students have the possibility to chat, they may also instal own chat channels, so they are not restricted to the moderated chat where the tutor is a member of.</p> <p>In our system all – synchronous and asynchronous - possibilitiers of communication are integrated. From chat-systems, also moderated ones, over whiteboard, to news forums, newsgroups which may be reached via the web or by advanced users via normal newsprotocol. All these features are installed with a new course aurtomatically, so the teacher/tutor needs not to worry about – he is just responsible to instal his course and in the background everything else is cared for.</p> <p>Towards the outside the system is completely open – the teacher/tutor may put links to any internet ressource and the student may use it in his bookmar-list. The link to all online libraries which exist at our university and to OPAC is integrated.</p> <p>Feedback is via the communication channels, but in our system this is not so relevant because we are only enrichment to normal teaching procedures on campus.</p>
<p>3 Tutor Support tools</p> <p>3.1 <i>Tracking students - database questions.</i> How user friendly is the LMS for tutors wishing to track their group(s) of students and retrieve data from the student database?</p> <p>3.2 <i>Group management tools.</i> What facilities are provided by the LMS to the tutors for managing their group(s) of students?</p> <p>3.3 <i>Preparation of questions and assignments by tutor.</i> How successful is the LMS in providing tutors with user</p>	<p>Our system is linked via the LDAP system to the central net-resources of the university: with the enrolment procedure The student receives his login possibilities into the VUR system – it is open to the public exsept for personal data, there it is stored what courses the student enrolled in. There the student can „book“ courses, so the student has access to his files , the list of course-bookings can be reached by the teachers, the students is , via an icon „new“ informed where there is additional teaching material for his course(s).This counter is instantly updated when the tuor puts up something new.</p> <p>Via chat or nnewsgroup, no specialized tool</p> <p>This is a task of traditional on-campus teaching: not applicable</p>

<p>friendly and didactically successful tools for the design of student questions and assignments?</p> <p>3.4 <i>Course planning for students (monitoring pace).</i> What tools are provided by the LMS to tutors to enable them to monitor and plan student progress?</p> <p>3.5 <i>User-friendly administrative systems between tutor and institution.</i> What provision does the LMS make for successful tutor to institution communication?</p>	<p>Not applicable: we think that 70% are face to face and 30% web-based</p> <p>They may use existing communication tools or just call us.</p>
<p>4 Administration (student database and records)</p> <p>4.1 <i>Enrolment procedures and fee paying.</i> What facilities does the LMS provide for student enrolments, course allocations and payment of fees?</p> <p>4.2 <i>Passwords and security.</i> How successfully does the LMS handle student access to the system and the security of all student interactions with the system?</p> <p>4.3 <i>Student records database.</i> How successful is the system's student database, especially for data storage and data retrieval.</p> <p>4.4 <i>Examination and certification records.</i> What structures are provided for recording of data and results leading to examination and certification?</p> <p>4.5 <i>Course, class and tutors database.</i> What facilities are provided for administration of courses, classes and tutors?</p>	<p>No special enrolment- once you are enrolled you may participate. No special fees. Our courses are always combined courses : face to face and web.</p> <p>Login and password are passed oin to the student with enrolment in the university, 128bit-encoded, between student and server and among servers</p> <p>No big problem because its an addition to the normal system</p> <p>Not applicable</p> <p>The teachers entry into the system is form-based and very easy to use, for installing new courses, changing existing ones, putting up additioonal material etc.</p>
<p>5 Technology (quality of software)</p> <p>5.1 <i>Server - hardware and sopftware options.</i> What is the quality of server hardware and software options?</p> <p>5.2 <i>Client - hardware and software options.</i> What is the quality of client hardware and software options?</p> <p>5.3 <i>Flexibility of didactic structure; updating, adaptability.</i> Is the didactic structure flexible ion is it determined by the technology? How adaptable is the technology to updates and to new technology that becomes available to the market?</p>	<p>Good quality: as a server we use a Dell-server Dual GigaHz with 1GB Ram, as video server (SUN) we have one with 4 processors and 4GB Ram – it is all quite spacious and meant for the future. We developed everything ourselves.</p> <p>Standard software, for the web including plugins like Acrobat,Realplayeretc. Metatagging is supported.</p> <p>Didactics structure are meant to be completely flexible: we only put up the course, the author is responsible for the didactic structure. It is GPL2 i.e. open for anyone. Every author may adapt as he wishes, the script language is RXML, when you want to change something, it will be easy; Changes on the appearance are very easy, we integrated a wizard where you can do it.</p>

<p>5.4 <i>Limitation of size (number of students, courses, tutors..)</i> 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?</p> <p>5.5 <i>Speed of system.</i> How is the speed of the system and student satisfaction? How does it cope with downloading courses and high bandwidth materials?</p>	<p>Software technology has no limits here, there may be hardware limits, but up to now not in our case.</p> <p>Comfortable from our side: it always depends on the student side: for instance we have a video-server (by realnetwork) which exactly offers the quality needed on the side of the student: this server checks the type of modem and adapts to that so the students get optimum quality in audio and video.</p>
<p>6 Price</p> <p>6.1 <i>Cost of the LMS (Learning Management System).</i> What is the cost of the LMS to the institution?</p> <p>6.2 <i>Annual fee.</i> What fees have to be paid annually for the system by the institution?</p> <p>6.3 <i>Student Enrolment fee (100 students, 1000 students, 10000 students.)</i> How do fees to use the LMS vary when the student base is 100 students, 1000 students, 10000 students?</p> <p>6.4 <i>Maintenance costs: staff involved in management, IT specialists, trainers, etc</i> What is the maintenance course to the institution of the LMS and what staff resources are need to maintain it and keep it functioning?</p> <p>6.5 <i>Training of teachers and learners and system users.</i> What costs are involved in staff and student training to use the LMS system?</p> <p>What features would you like to see included in this LMS in the future?</p>	<p>No cost in commercial term: the first version had been a research project and a doctoral dissertation, the second version has been sponsored by the chair we are working with and the whole system is completely free: GPL (General Public Licence)</p> <p>Nil</p> <p>Not applicable</p> <p>One person fulltime, apart from this our computing centre offers some courses in audio and video</p> <p>Towards the end of a term and in the beginning of the semester we offer a four-hour course for teachers/tutors, for students we offer a two-hour introduction.</p> <p>Right now we want to enhance mobile aspects of the system, right now you may log in via mobiles for changes of dates, news, addresses, counselling hours, telephone numbers etc. We are going, though, to include transparencies in pda formats together with audio files and offer these parts of learning material via WAP so you may learn e.g. on the train. There are AVANT-GO channels worked out where you can download parts to your pda – also the part for FAQs is developed</p>
<p>Conclusion: Overall evaluation:</p>	