

COMPREHENSIVE ANALYSIS OF EXISTING LEARNING MANAGEMENT SYSTEMS (LMSs)

Name of institution: Unique Learning.....

Type of institution: Online Course Provider/Developer.....

Address: Centre Park House, Centre Park Road, Cork.....

Telephone: 021 4315106..... Fax: 021 4315927

Email: ciaran@uniquelearning.com.....

URL: www.uniquelearning.com.....

Name of training manager: (Optional) Ciaran Sampey.....

LMS used: VISIT by EuroSync.....

URL of LMS:
http://v20.visiteurosync.net.....

Language of LMS: n/a.....

Number of years in use: 1.....

Other LMSs used: Learn2 inherited system.....

Number of students in the system:.....

Number of courses available: 1200..... Typical duration: 6 months/1 year.....

Number of tutors in the system:.....

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

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

Our courses are developed on the StreamMaker platform and uploaded to our media servers. They can then be accessed through the LMS – the courses themselves are not built through the LMS.

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?

The courses we develop are created independently of the LMS therefore this is not a consideration.

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

We have found the interface easy to use and intuitive from both a teacher and developer perspective.

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?

Yes. All our courses are fully interactive, multimedia-orientated. This is fully supported by our LMS

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

Questions (both pre and post test) are included as part of the courseware. The results of all exams and assignments are reflected in the LMS.

2 Student support tools

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

We use Web4M to provide interaction (see below). We also have online mentoring, FAQs, Contact List,

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?

We have a tool called Web4M which provides synchronous communication. Web-4M is a comprehensive collaboration and learning environment. It is an integrated suite of peer-to-peer, multi-user and groupware tools that delivers information "Just-In-Time". One of the major advantages of Web4M™, in any communications or e-Learning environment, is the synchronous environment that it provides. Student to student is supported. Web4M™ extends the chat room concept to provide users with a full suite of multimedia tools. In each room, users can audio conference, chat, share graphics via a white-board and view slides through an interactive slide show.

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?

Web4M can be used as a virtual classroom whereby a 'teacher' can present slideshows, PowerPoint presentations, or any other multimedia format that can be presented over the WWW. Multiple 'students' who have logged into this active session can then view this multimedia presentation in real time—and participate in a true synchronous environment. It is also possible for the 'students' to see their 'teacher'. This is achieved using video where a live video feed is transmitted to the 'students' from a 'teacher's' machine. This can be accessed 24 hours a day.

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?

These can all be accessed through the synchronous/asynchronous tool, Web4M which is managed by the LMS.

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

This is up to the assigned tutor. Technically, this is easy and is again achieved by using our synchronous/asynchronous tool, Web4M.

3 Tutor Support tools

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?

- Adding, editing and uploading course material*
- Maintenance of reading list for both online and offline content*
- Correction of tests or test sections which cannot be corrected automatically by the system.*
- Scheduling of classes*

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?

See Q3.4 below.

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?

The system provides tutors with access to the following administrative tools for monitoring and planning student progress:

- *Responding to particular questions on forums and moderation of forums.*
- *Online mentoring*
- *LMS provides up to date stats on all aspects of student progress. It is possible to drill down to course level and generate reports on individual students or groups of students.*

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

Web4M can handle communication between any interested parties. This is supported by the LMS

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?

The LMS uses a checkout system, EasyClear. New students would fill out a registration form get a username and password and they would then be free to buy courses online.

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?

Public users will have access to the site and all elements not protected by the user management and security.

Registering Students will be required to have a login account to access the element of the site based on their permissions.

For example access to interactive courses and tests. They will have access to their test results and progress on their selected courses.

Access to schedule showing online classes, registering for classes.

Each student will have access to information showing detailed information showing their progress on various aspects of their course. This would cover for example their exam results, progress on their projects and viewing their reading list.

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

We use an active passive SQL cluster on a Windows 2000 platform. It is both efficient and fast.

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

The LMS records all aspects of a students progress, even if the student didn't complete the course.

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

Administration

Administration with secure access for appointed staff that will have access to sections to control all aspects of the web system.

The main sections are:

Teacher / Tutor admin

Adding, removing Teachers from the system

Setting permissions for Tutors

Student admin

Adding removing Tutors from

General Site Management

Adding, editing section

Content Management

Approval of content added by Tutors

Forum Administration

Full control over all forums, setting topics and access for all users

Responding to feedback from all lower lever users

Tutors

This level will cover the features of the system tutors will have access.

Adding, editing and uploading course material

Maintenance of reading list for both online and offline content

Correction of tests or test sections which cannot be corrected automatically by the system.

Scheduling of classes

Responding to particular questions on forums and moderation of forums.

Students / Users

Public users will have access to the site and all elements not protected by the user management and security.

Registering Students will be required to have a login account to access the element of the site based on their permissions.

For example access to interactive courses and tests. They will have access to their test results and progress on their selected courses.

Access to schedule showing online classes, registering for classes.

Each student will have access to information showing detailed information showing their progress on various aspects of their course. This would cover for example their exam results, progress on their projects and viewing their reading list.

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?

State of the art server hardware: The server infrastructure consists of a redundant pair of Dell PowerApp.BIG-IP Load Balancing servers; a redundant pair of PowerEdge 2550 Web Servers, a pair of PowerEdge database servers organised in an SQL Active/Passive cluster with a shared PowerVault storage media and a redundant pair of Media Servers. These are all built on a W2000 IIS 5 platform The system integrates seamlessly on this.

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

The courses will run on internet explorer 4 and above on any pentium machine. StreamMaker allows you to stream the courses on nothing more than a 28.8k modem with only a small amount of latency. The system does permit metatagging.

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 didactic structure is flexible and is determined by the developers who design the course rather than being determined by the underlying technology. The technology can be upgraded if new updates become available.

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?

The capacity of the LMS is dependent on the capacity of the web server farm that hosts the site, database etc if the course is being done online. Almost all our courses are intended for online use. In theory it could handle thousands of concurrent online users as long as there was enough capacity on the web servers.

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?

StreamMaker™ is the basis for all of UniqueLearning.com's streaming elearning solutions. StreamMaker™ uniquely enables the creation of full screen, fully synchronised interactive multimedia, delivering graphics, animation, text and audio over the Internet and corporate Intranets.

- *The need for high bandwidth is eliminated – StreamMaker™ is perfectly effective with a 28.8K modem.*
- *A LAN player allows hundreds of simultaneous users to play the streams on a typical 10-BaseT network, without requiring any changes to the network's OS (operating system).*
- *Presentations are immediately accessible without the need for frustrating and time consuming download delays.*
- *Using StreamMaker™, we can convert (or create) existing training materials (PowerPoint, Video, CD-ROM) into forceful, interactive, online content.*
- *This advanced modular technology combines new compression algorithms with true real-life streaming of multimedia across the Internet, Intranet and Local/Wide Area Networks. This eliminates the unacceptable delays of downloading that cause the user to wait several minutes to receive a piece of multimedia.*
- *Interactive responsiveness is completely lost due to these delays. StreamMaker™ allows e-Learning titles to begin playing audio and full-screen training within seconds, even if the training segment plays for many hours.*

6 Price

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

€40,000

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

€20,000

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?

One off payment of €40,000

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?

It is part of the responsibility of the IT manager.

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

This isn't a concern of Unique Learning.

Conclusion: Overall evaluation: Unique Learning's emphasis is on creating and providing courseware to corporate and individual clients. We are not LMS specialists but do consider a solid and adaptable LMS as a key consideration in our corporate strategy. We find that our current LMS suits all our needs at this point in time. The previous LMS we used was inherited from Learn2 but we felt it didn't suit all our needs. Our current LMS is actually a suite of programs including Software Simulator Technology , the Custom Curriculum Development system, and the Course Management System. We feel this gives us a broader and more evolutionary system.

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

In the LMS market in general I would like to see standards implemented more rigorously, for example more compliance to standards such as SCORM and AICC. Big companies such as Macromedia and Microsoft demonstrated tools that will enable easy creation of SCORM-compliant learning objects. It is important to keep up with future developments.

One of the main criticisms is summed by Clark Aldrich: "LMSs fail to track a surprisingly large number of self-paced formal learning options, including books, magazines, conferences, meetings and speeches, mentoring and apprenticeship programs, and such group projects as designing a new product or helping a company develop a new marketing plan." This applies to our LMS also.