

1. Teaching and Learning

1.1. Content (Creating/Managing)

- 1.1.1. How much "control" does a faculty member have over content presentation (layout/design/etc)?
- 1.1.2. Does the content module (and other modules for that matter) allow for linking within and outside of the course?
- 1.1.3. How does the content module handle digital images, audio and video?
- 1.1.4. Can a faculty member create content pages within the LMS as well as upload those created on his or her desktop?
- 1.1.5. Do the web pages within the LMS adhere to HTML standards—ie., then any browser should work for faculty and students.
- 1.1.6. How many steps (clicks) are involved in uploading content pages to the LMS course?
- 1.1.7. Is there an internal program to create/develop/edit html pages?
- 1.1.8. Can the LMS handle "selective release" (based on username and/or date) of content materials?
- 1.1.9. If a current WebCT course has a considerable amount of content, what steps will be needed to migrate (considering both the layout of the content and the interconnections between the content and other areas within the course -- to quizzes or to bulletin board discussions)?
- 1.1.10. Can a student simultaneously view course content and another tool such as the bulletin board or the chat room?
- 1.1.11. Will there be a way of aggregating course files locally and directly uploading them into the LMS? (non-proprietary compression algorithms)
- 1.1.12. If the applications are to be delivered by application servers, will there be a way to connect from the LMS to the application servers?

1.2. Communication

- 1.2.1. Can the LMS support email outside the course as well as internally?
- 1.2.2. Can the LMS support Chat and White board simultaneously?

- 1.2.3. Can the LMS provide for randomly created groups as well as multiple groups participation by students?
- 1.2.4. Can the Discussion Board support searches?
- 1.2.5. Can the Discussion Board support anonymity?
- 1.2.6. Can the LMS support Voice Boards as well as text boards in threaded discussions?

1.3. Collaboration

- 1.3.1. Can students submit assignments for group grades, as well as individual grades?
- 1.3.2. Can students have a private group area to communicate and share files?
- 1.3.3. Can students change the nature of private to public when they are ready to share?
- 1.3.4. Can instructors give feedback to a group at once, or individuals within the group?

1.4. Assessment

- 1.4.1. Can the LMS grade objective quizzes automatically and reveal results to students?
- 1.4.2. Can the LMS allow students to submit papers online and allow instructors to grade and give feedback online?
- 1.4.3. How many quiz question types are available?
- 1.4.4. Can the LMS convert Word document quizzes into its quiz tool?
- 1.4.5. Can the LMS convert text documents into its quiz tool? (Don't be dependent on Word.)
- 1.4.6. Can you rearrange field import order for the quiz tool or for importing test banks?
- 1.4.7. Does the LMS have an anonymous survey tool?
- 1.4.8. Can the LMS survey provide feedback to the instructor?
- 1.4.9. Can the LMS survey provide data to the department chair (or designated authority) and NOT the instructor?
- 1.4.10. Can Discussion boards be graded?
- 1.4.11. Can the Gradebook reveal all the student data in the course at once for an individual student?
- 1.4.12. Can the Gradebook be exported and imported from Excel?
- 1.4.13. Can the LMS accept student Web pages and collaborative projects with multimedia?

- 1.4.14. Can the gradebook final grades be exported to University grading system and/or Records Office directly?

1.5. Repositories/Learning Objects

- 1.5.1. Does this LMS support content sharing? Between courses?
- 1.5.2. Does this LMS have an e-Portfolio system built in?
- 1.5.3. Can the e-Portfolio system accept/handle images, audio, text, ppt, and other multimedia files?
- 1.5.4. Can the e-Portfolio system be customized by the instructor?
- 1.5.5. Can the e-Portfolio system be individualized for specific student use?
- 1.5.6. Does this LMS accommodate third party e-Portfolios?
- 1.5.7. Does this LMS support streaming and multimedia technologies, such as Flash movies?
- 1.5.8. Does this LMS interface with plagiarism software? Such as Turnitin.com?
- 1.5.9. Does this LMS interface with other content development software?

2. Academic Program Assessment

- 2.1. Does this LMS help faculty assess student learning outcomes in all academic (baccalaureate and beyond) programs?**
- 2.2. Does this LMS help the faculty and staff administer the Student Evaluation of Teachers (SETs)?**
- 2.3. Does this LMS help departments carry out their periodic (in our case, five-year) reviews?**
 - 2.3.1. Exit Surveys
 - 2.3.2. Other?
- 2.4. Does this LMS help departments address accreditation requirements?**
- 2.5. Course-Embedded Program Assessment**
 - 2.5.1. Can a hierarchy of learning goals be defined (e.g., degree – major – option – pattern)?
 - 2.5.2. Can students upload coursework that is permanently associated with their student ids (and demographic information such as major, etc.)?
 - 2.5.3. Can learning goals (at any level of the hierarchy) be assessed on student coursework?
 - 2.5.4. Can student work be assessed at multiple time points using a variety of rubrics? In other words, can "evaluation scenarios" be constructed for different evaluator groups at different points in time that consist of an assignment, a set of learning goals (across the learning goal hierarchy) and related rubrics?
 - 2.5.5. Does the system allow a variety of rubrics (# or traits, # of scoring categories, numeric scale associated with categories, verbal descriptions of categories)?
 - 2.5.6. Can student work be assessed by external evaluators (anyone other than course instructor, e.g., industry representatives, other faculty, other students)?
 - 2.5.7. Does the system allow double-blind assessment of student work?
 - 2.5.8. Does the system allow random samples of student work to be assigned to external evaluators?

- 2.5.9. Do students get feedback (scores, comments) from evaluators (blind for other than the course instructor)?

3. LMS Support and Sustainability

3.1. How does Content Migrate to Your LMS?

- 3.1.1. Would your content extractor/importer be able to handle content generated by WebCT's content module (a set of web pages)?
- 3.1.2. Could the course easily maintain a series of linked web pages?
- 3.1.3. Could an HTML page link directly to a tool within your LMS?
- 3.1.4. How would a large course (over 100mb) be converted from WebCT Campus Edition 4.x to your LMS?
- 3.1.5. Converting big content courses and sharing content from one semester to another, how is that handled?
- 3.1.6. What is the migration path from WebCT CE 4.1 to your product?
- 3.1.7. Do you recommend that it be done by your staff or locally?
- 3.1.8. What is the process to migrate existing courses (on WebCT CE 4.1) to your product?

3.2. Training and Support for Staff

- 3.2.1. What are the staffing requirements for your product? Please describe the needed team in terms of skills required and time commitment expected from them.
- 3.2.2. What training do you offer for our support staff?
- 3.2.3. Where would it occur, how much time would it take, would it be built into the cost of the product?
- 3.2.4. Are there training materials and documentation pre-existing that we can use to train faculty and students? Would there be extra cost in this? How much?
- 3.2.5. If we wanted to modify the documentation to use our own "branding," would this be allowed?
- 3.2.6. Beyond written documentation, has your company/organization thought about some sort of prerecorded online training materials, and if so would these be made available?
- 3.2.7. Would there be restrictions on reproduction of these materials, if they were in a printed format?

3.3. Training and Support for Faculty and Departments

- 3.3.1. How long would you estimate to train users to the different levels of proficiency, assuming a new user? And
- 3.3.2. Assuming an experienced user, who has experience with prior versions of WebCT Campus Edition, or Blackboard?
- 3.3.3. Two or more departments want to create their own template to be used in courses from that department only. How would you handle this through your product?
- 3.3.4. Five or more sections of a course are cross-listed to facilitate the instructor updating the content. How can you do this with your product?

3.4. Application Development and Support

[After having gotten past the first phase of implementation successfully, and getting some courses from WebCT Campus Edition into your product, we begin getting requests from faculty for some specialized applications. We want to be able create a quiz in Flash, have Flash grade the quiz, and store the results in the Gradebook.]

- 3.4.1. Does your product have an API?
- 3.4.2. What is the underlying technology?
- 3.4.3. How far does the API extend, is it only on the Administrative side of the product, or could something like this be developed, assuming that PHP, or ASP, or JSP page requirements were met on the server side?
- 3.4.4. What about the possibility of writing our own tools, and building them into our WebCT server, would the API, assuming one exists, support that?
- 3.4.5. For example an image manipulation tools, written in Java, so faculty could create basic icons or banners online?
- 3.4.6. What security is built into the server, to not allow an application page (.cgi, .asp, .php, etc.) to not access the underlying WebCT files and database?
- 3.4.7. What about syncing WebCT with third party vendors systems?
- 3.4.8. What areas of the product can be customized/extended? How?
- 3.4.9. What tools do you provide? What language are these extensions written in?

3.5. Content Migration Out of Your Product

[We have been with your product for about 5-7 years, and now it is time to re-evaluate our LMS.]

- 3.5.1. How is the content and data stored in your product?
- 3.5.2. How easy would extracting course content, and data be from your system?
- 3.5.3. What standards do you use/support? (IMS, SCORM, XML, Oracle, SQL Server, etc., what about interfacing with Library systems?)
- 3.5.4. How is course content migration out of your product handled?
- 3.5.5. What would we be left with if we decided to move to a different product/vendor?

3.6. Accessibility

[Disabled students are a population on campuses that have been ignored and unsatisfied with online learning.]

- 3.6.1. Is there some built-in means of enforcing pages accessibility for content created in WebCT? For example, there is currently an HTML editor in WebCT Campus Edition 4.x. This was a major improvement over past versions. However, as faculty begin using it for formatting, they are ingesting their pages with extreme amounts of formatting markup, font tags and the like.
- 3.6.2. Could we have control over the buttons in the HTML editor, so that we only allowed things like h1-h6, etc.
- 3.6.3. How can we guarantee that things like ADA/Section 508 compliance are followed?
- 3.6.4. If a DSS student came to their instructor, and informed them of the situation, would someone (support staff) have to go through the course and ensure its accessibility, or assuming that the course was developed in your product, could we assume that it was 508/ADA compliant?

3.7. Assistants to Instructors/Roles Allowed

[One situation that arises is that Administrative Assistants are charged with putting syllabi into faculty courses for them. This currently is a bit of a headache, due to the TRACS naming we use in our courses, and the lack of a hierarchical structure to WebCT Campus Edition 4.x.]

- 3.7.1. How does your product address this issue?
 - 3.7.2. Beyond the manual labor associated with assigning one person as designer to multiple courses, if your product has a hierarchical nature to it, what other benefits do you see in this?
 - 3.7.3. We often get requests for surveys to be given at the school level, department level, class grade level, etc.?
 - 3.7.4. Would this allow for granular control like that?
 - 3.7.5. Would part of the purchase price include levels of support from consultants?
 - 3.7.6. How much and how often?
 - 3.7.7. Does this include only technical support, or also business analysis and business process creation?
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- 3.8. Does your LMS provide, or plan on providing single sign on for users of our library's subscription databases, eBooks, electronic reserves and other password protected materials?

 - 3.9. Do you have any partnerships with library system providers, to make integration with these systems more seamless? If you do have partnerships, who are the library system providers that you work with, and what features do you offer?

 - 3.10. Does your system allow users to manage, search, and link to materials in library collections?

4. Enterprise Integration (Subject to further revision)

4.1. Compliance with applicable standards, policies, regulations and laws.

4.1.1. Accessibility

4.1.2. CO Exec order

4.1.3. Academic Standards

4.1.4. Information security

4.1.4.1. How does the solution protect confidential data and session activity both within the application and in transit?

4.1.4.2. What types of data and session activity are encrypted?

4.1.4.3. Describe in detail delivered security elements such as, but not limited to, the encryption of sensitive data, the enforcement of strong passwords, the enforcement of password changes, etc.?

4.1.4.4. What types of data and session activity are not encrypted?

4.1.4.5. How does the solution ensure the highest degree of student privacy if needed, e.g. with respect to FERPA?

4.1.4.6. How does the solution allow or prevent access to restricted directory information?

4.1.4.7. Does it support multiple levels of access/restriction?

4.1.4.8. Can access to directory information be controlled at the level of the individual?

4.1.4.9. How does the solution support student anonymity?

- 4.1.4.10. Does the system support both a closed (course level) and open (Internet) e-mail capability?
- 4.1.5. Architecture and Campus data center standards
 - 4.1.5.1. Provide a detailed list of the CSU Chico information that is necessary for vendor assistance in selecting/sizing servers and other hardware and software components of the LMS environment.
 - 4.1.5.2. Can the solution be successfully implemented and supported with Intel-based Dell Hardware?
 - 4.1.5.3. Can the solution be successfully implemented and supported on Linux Red Hat AS/ES V3 Linux
 - 4.1.5.4. Provide a comprehensive description of LMS solution software requirements (e.g., applications, database management system, languages, compilers, utilities, toolsets, etc.). If optional products can be selected by the campus specify the options and any limiting factors that should be considered.
 - 4.1.5.5. Provide a comprehensive description of support tools provided (e.g., user account/profile management, content management, interface components for connecting external services, software development kit(s)).
 - 4.1.5.6. What components of the solution are dependent upon an RDBMS?
 - 4.1.5.7. How extensive is the RDBMS configuration? (How many tables, records, etc?) What versions of Oracle does the solution currently support/require? Support for both 9i and 10g?
 - 4.1.5.8. Specify supported web browsers to include client platforms and version levels.
- 4.1.6. Technology Standards/Open Standards
 - 4.1.6.1. Describe in detail whether the vendor solution is based on open standards and/or

proprietary tools and interfaces. Include a description of the tools and interfaces used.

- 4.1.6.2. Describe in details how the solution supports the IMS standard, why that is important, and how that support impacts integration with other products and external content
- 4.1.6.3. Describe in details how the solution supports the SCORM standard, why that is important, and how that support impacts integration with other products and external content
- 4.1.6.4. Describe in details how the solution supports the OSPI standard, why that is important, and how that support impacts integration with other products and external content
- 4.1.6.5. Does the solution support LDAP authentication?
- 4.1.6.6. Does the solution support CAS single-sign-on?
- 4.1.6.7. Can the solution simultaneously support external and internal authentication?
- 4.1.6.8. Are there other important standards the solution supports or complies with? What are they and why are they important?

4.2. Interconnectivity with enterprise systems

- 4.2.1. Describe in detail the application components of the LMS solution to include process diagrams and the linking to external information and service sources.
- 4.2.2. Describe in detail how the solution integrates with uPortal
- 4.2.3. PeopleSoft
- 4.2.4. LDAP
Provide detailed technical requirements for using an existing LDAP Directory for authentication to the LMS.
- 4.2.5. Library systems
- 4.2.6. Universal single-sign-on (CAS)

Describe how single sign-on connections, via the LMS, to

information and services can be accomplished. Examples of information and services include Library electronic resources that require authentication for access/use. Define in detail, the technical requirements for accomplishing single sign-on.

4.3. System and Application Performance

- 4.3.1. Describe how the solution delivers a high-degree of:
 - 4.3.1.1. Availability (24 x 7)
 - 4.3.1.2. Reliability
 - 4.3.1.3. Software redundancy/fail-over
 - 4.3.1.4. Hardware redundancy/fail-over
 - 4.3.1.5. Fault tolerance
 - 4.3.1.6. Performance
 - 4.3.1.7. Number of concurrent users supported
 - 4.3.1.8. Response time
- 4.3.2. Scalability
 - 4.3.2.1. Support for future growth and increased dependence on the solution for mission-critical teaching and learning activities
 - 4.3.2.2. Increase in users, sections, utilization, storage space, complexity of activity

4.4. Guaranteed service levels for the useful life of the product

- 4.4.1. Consulting Services
 - 4.4.1.1. Available on demand (if needed)
 - 4.4.1.2. Bundled into agreement?
 - 4.4.1.3. Deployment and implementation planning/services
 - 4.4.1.4. Provide a description of vendor ability to assist CSU Chico with the installation and customization of the LMS solution to include knowledge sharing with appropriate technical staff.

4.4.2. Technical Support/Problem resolution

- 4.4.2.1. 24x7 access to vendor
- 4.4.2.2. Prompt response and escalation
- 4.4.2.3. Tiered support plans (e.g., M – F 8-5, 7 x 24, etc.)

4.4.3. Product Development Cycles

- 4.4.3.1. Provide a detailed description of software maintenance and support program to include frequency of planned major releases, procedure for the release of bug fixes/patches, support center response times and problem escalation procedures,
- 4.4.3.2. Version currency requirements, etc.
- 4.4.3.3. Describe any future development plans including details regarding the development lifecycle and any functionality planned.
- 4.4.3.4. Normal cycles
- 4.4.3.5. Major upgrades
- 4.4.3.6. Patches and bug fixes
- 4.4.3.7. System modification requests

4.4.4. Community of practice

4.5. Staffing Levels Required by the solution

- 4.5.1. Describe in detail how role based access to information and services are accomplished.
- 4.5.2. Describe in detail how data would be migrated during implementation from our existing platform to the new platform.
- 4.5.3. Based on vendor experience with LMS implementations at comparable higher education institutions, please provide estimates regarding staffing requirements.
- 4.5.4. How much onsite DBA support required?

- 4.5.5. System administrator: FTE + skills required
- 4.5.6. Application administrator: FTE + skills required
- 4.5.7. DBA: FTE + skills required
- 4.5.8. Programmer: FTE + skills required
- 4.5.9. Content administrator: FTE + skills required
- 4.5.10. Other staff: FTE + skills required
- 4.5.11. Content administration
- 4.5.12. Training
- 4.5.13. Server installation and customization
- 4.5.14. Security implementation and setup
- 4.5.15. Content management
- 4.5.16. Functional/User Support
- 4.5.17. Train the trainer
- 4.5.18. Managing Response Times

4.6. Reference sites (subject to further revision)

- 4.6.1. Provide description of solutions recommended and successfully used by your customers to ensure response times meet performance requirements during peak demand periods (e.g., load distribution across multiple servers), specify the options and any limiting factors that should be considered.
- 4.6.2. Provide a minimum of three reference sites for which the vendor solution:
 - 4.6.3. has been in production for a minimum of (1) year
 - 4.6.4. user authentication to an LDAP Directory;
 - 4.6.5. user-base consists of 15,000 students and 2,000 faculty

4.7. SCORM

- 4.7.1. How does your product handle SCORM content? If a faculty member creates Learning
- 4.7.2. Interactions/Behaviors with Flash and wraps them with a SCORM wrapper, how would your product interact with them?

4.8. How does your product handle cross listing one section with another one (maybe of the same course or not)

4.9. We have cases where a student enrolls in 2 sections of the same course to guarantee getting into one of them. Currently when a student is removed from a section all the content, grades, test scores and assignments are deleted along with the student. What solution does your product offer to address this concern?