SWENG 500

Learning Management System

Test Document

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**INTRODUCTION**

This document will serves as a guideline for testing of the Learning Management System and its expected functionality and behaviors.

**TEST METRICS**  
----------e.g. test coverage, test span, test effort, complexity

**TEST PLAN**  
----------Conduct of testing, etc.

**TEST CASES**

***Instructor Interface***

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| --- | --- |
| **Test Case** | **Test Result** |
| Create a new course | New course with all required components have been created. |
| Edit a course | Content within existing course has been updated, content files have been uploaded, and content files have been deleted. |
| Delete a course | All data and files associated with a specific existing course have been deleted from the system and the course entry has been removed from the course catalog. |
| Archive a course | The archival flag has been set for existing course and the course entry has been removed from the course catalog. |
| Upload content file(s) | The content file(s) have been uploaded into the storage area. |
| Delete content file(s) | The content file(s) have been deleted from the storage area. |

***Student Interface***

**TEST CASES**

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| --- | --- | --- | --- | --- |
| **Test Case 1:** **Student Login** | | | | |
| # | **Steps** | **Expected Result** | **Actual Result** | **P/F** |
| 1 | Enter valid username / password combination | User logged into LMS. LMS home page displayed |  |  |
| 2 | Enter valid username and invalid password | System displays “Incorrect Username or Password” message |  |  |
| 3 | Enter invalid username and invalid password | System displays “Incorrect Username or Password” message |  |  |
| 4 | Enter valid username and enter ' or '1'='1' -- ' for the password | System displays error “…” |  |  |
| **Test Case 2: Search Catalog** | | | | |
| 1 | Enter valid course name into search box | Link to desired course is displayed |  |  |
| 2 | Enter invalid course name | “Course not found” message |  |  |
| **Test Case 3: Add Course** | | | | |
| 1 | Search catalog for a course and click course link from search results | Course details page displays with option to add to roster |  |  |
| 2 | Click “Add to Roster” | “Course Added” message |  |  |
| 3 | Repeat steps 1 and 2 for a course that is already on the Roster | “Course already in Roster” message. |  |  |
| **Test Case 4: View Course Details** | | | | |
| 1 | Search catalog for existing course | Search results display link to desired course |  |  |
| 2 | Click course link | Course details display |  |  |
| **Test Case 5: Take Course** | | | | |
| 1 | Access course details page for a course | Course details display along with Launch button |  |  |
| 2 | Click Launch button | Course opens to course home page with Begin Course button and links to course lessons |  |  |
| 3 | Click Begin Course button | Course plays. Course navigation buttons (prev, next, pause) display on bottom right |  |  |
|  |  |  |  |  |
| **Test Case 6: Complete lesson** | | | | |
| 1 | Launch a course | Course Home page with links to lessons displays |  |  |
| 2 | Select any lesson link | Course plays starting at the selected lesson. Navigation buttons are visible. |  |  |
| 3 | Select Next navigation button | Advance to next screen |  |  |
| 4 | Repeat step 3 until last page of lesson | First page of next lesson in sequence displays |  |  |
| 5 |  |  |  |  |
| **Test Case 7: Use course navigation buttons** | | | | |
| 1 | Start any lesson | Prev, Next, Pause buttons appear on bottom right of screen |  |  |
| 2 | Select Next button | Advance to next page |  |  |
| 3 | Select Prev button | Return to previously viewed screen |  |  |
| 4 | Select Pause button | Audio / captioning pauses and Pause button toggles to Play button |  |  |
| 5 | Select Play button | Lesson audio and captioning resumes |  |  |
| **Test Case 8: View Help Contents** | | | | |
| 1 | Launch course | Taken to Course Home page |  |  |
| 2 | Select Help button | Help document window opens with links to topics within the document |  |  |
| 3 | Select a topic link | Taken to section in document for the selected link |  |  |
| **Test Case 9: Create Bookmark** | | | | |
| 1 | Launch course | Taken to Course Home page |  |  |
| 2 | Click on a lesson link | Lesson starts |  |  |
| 3 | Click Next button | Advance to next screen in lesson |  |  |
| 4 | Click Add Bookmark | Popup request Bookmark name |  |  |
| 5 | Enter Bookmark Name “Test Bookmark” | “Test Bookmark added” message displays |  |  |
| **Test Case 10: Take Course Test** | | | | |
| 1 | Select Take Course Test link from Course home page | Test launches. Displays “Start Test” button |  |  |
| 2 | Click “Start Test” button | First question displays with disabled “next” button |  |  |
| 3 | Select first option/choice | “next” button is enabled |  |  |
|  | Select “next” button | A different question displayed |  |  |
| 9 | Select first answer for all remaining questions. View test results | Results answers match all selected answers |  |  |
| 10 | From course home. Select Take Course Test button again and start test | Test displays a different first question than in step 6 |  |  |
| 11 | Fail test by selecting enough incorrect answers. | System displays “Score is below passing”. Option to retake or return to course home |  |  |
| 12 | Select No to return to Course Home Page | Course status displays as “Incomplete” |  |  |
| 13 | Take test again (step 5). Select enough correct answers to pass test | System displays “Score is passing” Option to retake or return to course home |  |  |
| 14 | Return to Course Home Page | Course status displays as “Complete” |  |  |
| 15 | Take test again (step 5). Select enough correct answers to pass with at least one incorrect answer. | System displays “Score is passing” Option to retake incorrect questions - “Yes” “No” buttons displayed |  |  |
| 16 | Select “Yes” to retake incorrect parts of test. | Questions displayed are those answered incorrectly. |  |  |
| **Test Case 11: Print Certificate** | | | | |
| 1 | Launch a new course | Course opens to Course Home page |  |  |
| 2 | Select Print Certificate | Error “Course not completed.” |  |  |
| 3 | Complete the course | Course status set to “Complete” |  |  |
| 4 | Select Print Certificate | Image of certificate displays with Print button |  |  |
| 5 | Select Print button | Printer dialog opens |  |  |
| **Test Case 12: Exit Course** | | | | |
| 1 | Launch a course | Course opens |  |  |
| 2 | Select Exit button | Course prompts for confirmation to exit |  |  |
| 3 | Select Yes to confirm | Course exits |  |  |
| 4 | Repeat step 1 then complete the course | Course Home changes course status to “Complete” |  |  |
| 5 | Repeat step 2 and 3 | Course exits |  |  |
| 6 | Select Enrollment History from LMS home | Course has status of “Complete” |  |  |
| **Test Case 13: Delete Course** | | | | |
| 1 | Select View Student Roster from LMS home | List of currently enrolled courses displays |  |  |
| 2 | Select a course previously added by student | Course details page displays |  |  |
| 3 | Click Delete button | “Course deleted” |  |  |
| 4 | Select a course that was added by an instructor | Course details page displays |  |  |
| 5 | Click delete button | Error “Instructor enrolled course. Delete not allowed” |  |  |
| **Test Case 14: View Student Roster** | | | | |
| 2 | Login to LMS | Taken to LMS home |  |  |
| 1 | Select View Student Roster link | Listing of courses student currently enrolled in displays |  |  |

***Database***

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| **Test Case** | **Test Result** |
| Create a new course | The new course and related information are stored in the database. |
| Edit a course | All modifications related to the course in context have been saved in the database. |
| Delete a course | The course is soft-deleted by being marked as not enabled in the database. |
| Create a new lesson | The new lesson and related information are stored in the database. |
| Edit a lesson | All modifications related to the lesson in context have been saved in the database. |
| Create a new educator. | The new educator and related information are stored in the database. |
| Edit an educator. | The modifications related to the educator in context have been saved in the database. |
| Add a file | The file is saved to the application server file system and a database record is added with a link about and information about the file. The file could be associated with: a private message, assignment instructions, assignment hand-in (from student), a lesson, or a course. |
| Create a new student | The new student and related information are stored in the database. |
| Edit a student | The modifications related to the student in context have been saved in the database. |
| Student Joins a Course | A record is saved in the database to mark the student as being associated with a course. |
| Student Leaves a Course | A record is removed from the database to mark the student as being associated with a course. |
| Create Assignment | The new assignment and related information are stored in the database. |
| Delete Assignment | The assignment in context is deleted from the database. |
| Create Private Message | The new private message and related information is added to the database. |
| Delete Private Message | The private message in context is deleted from the database. |
| Create a Grade | The new grade and related information is added to the database. |

***Backend***

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| **Test Case** | **Test Result** |
| Create a new course | New course with all required components have been created. |
| Edit a course | The course object is updated and saved to the database. |
| Delete a course | All data associated with a specific existing course have been deleted from the system and the course entry has been removed from the course catalog. |
| Authenticate user | The user information is validated against the database and a success is returned. |
| Add user | New user with all required information is created and saved. |
| User enrolled in course | The course roster is updated and saved. |
| Validate Prerequisites | The user is validated against prerequisites and a success flag is returned. |
| Upload course content | The content is added to the course and saved to the database. |
| Delete course content | The content is removed from the course and updated to the database. |

**TEST RESULTS**  
----------Results of the testing