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**  
We hope to achieve as close to 100% code coverage as possible, but developing phpUnit test cases for the backend code. For front end Javascript code, we are also writing test unit cases that utilize the QUnit framework. All test cases will be developed before the code is developed.

**TEST PLAN**  
We plan to run test cases often. Whenever a new codebase is installed, all tests will be run. This will ensure that if anything changes, it can be addressed.

**TEST CASES**

***Instructor Interface***

|  |  |
| --- | --- |
| **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** | | | | |
| 1 | Login to LMS | Taken to LMS home |  |  |
| 2 | Select View Student Roster link | Listing of courses student currently enrolled in displays |  |  |

***Backend***

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| # | **Steps** | **Expected Result** | **Actual Result** | **P/F** |
|  | **Test Case for Use Case: Create User** | | | |
| 1 | Add user | New user with all required information is created and saved. |  |  |
|  | **Test Case for Use Case: Authenticate User** | | | |
| 1 | Authenticate user | The user information is validated against the database and a success is returned. |  |  |
|  | **Test Case for Use Case: Create Course** | | | |
| 1 | Create a new course | New course with all required components have been created. |  |  |
|  | **Test Case for Use Case: Edit Course** | | | |
| 1 | Edit a course | The course object is updated and saved to the database. |  |  |
|  | **Test Case for Use Case: Course is Deleted** | | | |
| 1 | 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. |  |  |
|  | **Test Cases for Use Case: Associate Student to Course** | | | |
| 1 | User enrolled in course | The course roster is updated and saved. |  |  |
| 1 | Validate Prerequisites | The user is validated against prerequisites and a success flag is returned. |  |  |
|  | **Test Cases for Use Case: Course Content is updated** | | | |
| 1 | Upload course content | The content is added to the course and saved to the database. |  |  |
| 1 | Delete course content | The content is removed from the course and updated to the database. |  |  |

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