

Unit Tests

Unit Testing will be done as part of the Acceptance Test. Unit Testing is concerned with knowledge about a program unit, typically developed by a single individual, to determine that it is free of data, logic, or standard errors. This unit includes knowledge of dynamic analysis (equivalent partitioning, boundary value analysis, cause-effect graphing, logic-based testing, random testing, and syntax testing) and

Units

Students

| | |
|--------------------------------------|---|
| Log-In..... | 7 |
| Home Screen..... | 9 |
| Solution Submission..... | 3 |
| Grade Book | |
| Assignments Page | |
| Account Creation / Registration..... | 5 |
| Forgot Password | |
| Account Management | |
| Adding a Course | |

Instructor

| | |
|-------------------------------------|----|
| Log-In..... | 7 |
| Home Screen | |
| Question Creation | |
| Question Set Creation | |
| Adding Questions to Sets | |
| Question Set Publication..... | 14 |
| Pool Management – Private | |
| Pool Management – Course | |
| Pool Management – Published Content | |

Pool Management – Global Pool
Editing Live Question Sets
Grade Book
Report Creation
Forgot Password
Account Management

Program Administrator

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|--------------------|---|
| Log-In..... | 7 |
| Home Screen | |
| Report | |
| Account Management | |

System Administrator

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|------------------------|----|
| Log-In..... | 7 |
| Home Screen | |
| Report | |
| Account Creation..... | 10 |
| Course Creation..... | 13 |
| Account Management | |
| Course Management..... | 4 |

Unit 1

Solution Submission

Note: Assume a user has just finished answering a question and clicked on the "Run & Compile" Button

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------------------------------------|--------|-----------------------------------------|--------------------------------------------|-----------------|-------------------------------------------------------------------------------------------|-----------------|----------|
| | 1.001 | Solution Submission page loads | Correct page loads | N/A | Administrator Solution submission page loads and is appropriately displayed | | |
| | 1.002 | Verify code saved on submission | Verify test is saved in the database | Code submission | Code submission saved in the database | | |
| | 1.003 | Validate code submission | Validate text for legal characters | Code submission | No illegal characters | | |
| | 1.004 | Compile code submission | Compile submission using Java 1.6 Compiler | Code submission | No compilation errors | | |
| | 1.005 | Compile code submission | Compile submission using Java 1.6 Compiler | Code submission | Code does not compile; user need to be able to view test cases | | |
| | 1.006 | Compile code submission on last attempt | Compile submission using Java 1.6 Compiler | Code submission | Code gets compiled; student can view test cases; if applicable solution becomes available | | |
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| = Summary of Tests for This Unit | | | | | | | |

Unit 2

System Administrator Course Management

Note: Assume the system administrator knows the proper course title and course number

Test Case

| Pass/Fail | Number | | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------|--------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| | 2.001 | Step | | | | | |
| | 2.002 | Administrator Course Managements page loads | Correct page loads | N/A | Administrator Course Management page loads and is appropriately displayed | | |
| | 2.003 | Verify all current courses are displayed | Verify all active courses are displayed | System Administrator selects Course Management tab from their user menu | All active courses are displayed | | |
| | 2.004 | Verify system administrator can create a new course | The create new course button must be active and working | System Administrator selects the create new course button | The System Administrator will be navigated to the create new course page | | |
| | 2.005 | Select Course | The administrator can select a course to edit by using the edit button located next to the course name | System Administrator selects the course from the Course List (if desired) | The administrator is sucessfully navigated to the proper course | | |
| | | Save Changes button | System Administrator wishes to save changes | Administrator clicks "Save" | If all fields are filled out and contain correct data, the information is stored. If a field is missing data, the proper error message is displayed. | | |

Unit 3**Student Account Creation**

Note: Assume student knows his/her first and last name and email address, and has then clicked on the "Submit" button.

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------|--------|-------------------------------------|-------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------|-----------------|----------|
| | 3.001 | Student Account Creation page loads | Correct page loads | N/A | Student Account Creation page loads and is appropriately displayed | | |
| | 3.002 | Enter accepted first name | Student enters first name with no illegal characters. | Input first name | No illegal characters, the name is accepted | | |
| | 3.003 | Enter unaccepted first name | Student enters first name with illegal characters | Input first name | Page reloaded with proper error message displayed | | |
| | 3.004 | Enter accepted last name | Student enters last name with no illegal characters | Input last name | No illegal characters, the name is accepted | | |
| | 3.005 | Enter unaccepted last name | Student enters last name with illegal characters. | Input last name | Page reloaded with proper error message displayed | | |
| | 3.006 | Enter accepted email address | Student enters a unique and valid email address with legal characters | Input email address | No illegal characters, the email address is valid. The address is accepted | | |
| | 3.007 | Enter unaccepted email address | Student enters a non-unique email address or one that is invalid or contains illegal characters | Input email address | Page reloaded with proper error message displayed | | |

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|-----------------------------------------|-------|------------------------------|-------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| | 3.008 | Enter accepted password | Student enters a password of the proper length with no illegal characters | Input password | Password is compared to confirmation password | | |
| | 3.009 | Enter unaccepted password | Student enters a password not of the proper length or containing illegal characters | Input password | Page reloaded with proper error message displayed | | |
| | 3.010 | Confirm password correctly | Student retypes the password correctly | Input password | Confirmation password matches password and is accepted. | | |
| | 3.011 | Confirm password incorrectly | Student retypes the password incorrectly | Input password | Confirmation password does not match the password. Page reloaded with proper error message displayed. | | |
| | 3.012 | Submit button clicked | Student wishes to submit the data | Student clicks "Submit" | If all fields are filled out and contain correct data, the information is stored. If a field is missing data, the proper error message is displayed. | | |
| = Summary of Tests for This Unit | | | | | | | |

Unit 3

Student Account Creation

(Continued)

Unit 4

Login Page

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------|--------|--------------------------------------|-------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------|-----------------|----------|
| | 4.001 | Login page loads | Correct page loads | N/A | Login page loads and is appropriately displayed | | |
| | 4.002 | Correct login: Student | Login with valid Student account and password. | Input Student email address and password | Student Welcome Page opens | | |
| | 4.003 | Correct login: Instructor | Login with valid Instructor account and password. | Input Instructor email address and password | Instructor Welcome Page opens | | |
| | 4.004 | Correct login: Program Administrator | Login with valid Program Administrator account and password | Input Program Administrator email address and password | Program Administrator Welcome Page opens | | |
| | 4.005 | Correct login: System Administrator | Login with valid System Administrator account and password | Input System Administrator email address and password | System Administrator Welcome Page opens | | |
| | 4.006 | Incorrect username login | User attempts to log in with invalid username | Input username | Error message stating that the username is incorrect is displayed | | |
| | 4.007 | Incorrect password login | User attempts to log in with invalid password | Input password | Error message stating that the password is incorrect is displayed | | |

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|-----------------------------------------|-------|------------------------------|---------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------|--|--|
| | 4.008 | New Account link clicked | A Student wishes to register a new account | User clicks "New Account" | Student Account Creation Page loads correctly | | |
| | 4.009 | Forgot Password link clicked | A user wishes to receive their password via email | User clicks "Forgot Password" | Forgot Password Confirmation Page loads correctly | | |
| | 4.010 | Login button clicked | A user wishes to log in | User clicks the "Login" button | If all fields are filled in and contain correct data, the user is logged in | | |
| = Summary of Tests for This Unit | | | | | | | |

Unit 4

Login Page (Continued)

Unit 5

Student Home Page

Note: Assume a Student has successfully logged in. A student refers to a Student user, or any user in the Student view.

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------------------------------------|--------|--------------------------|--------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------|-----------------|----------|
| | 5.001 | Student Home Page loads | Correct page loads | N/A | Student Home Page loads and is appropriately displayed | | |
| | 5.002 | Home button clicked | A Student wishes to go to the Home Page | Student clicks the "Home" link | Student Home Page is loads and is appropriately displayed | | |
| | 5.003 | Gradebook button clicked | A Student wishes to view the Gradebook | Student clicks the "Gradebook" link | Student Gradebook is correctly reloaded | | |
| | 5.004 | Current course clicked | A Student wishes to view the page of a particular current course | Student clicks a current course | Correct page is loaded for the given course | | |
| | 5.005 | Completed course clicked | A Student wishes to view the page of a particular completed course | Student clicks a completed course | Correct page is loaded for the given course | | |
| | 5.006 | Logout button clicked | A Student wishes to log out | Student clicks the logout button | The user is successfully logged out and redirected to the login screen | | |
| = Summary of Tests for This Unit | | | | | | | |

Unit 6

Administrator Account Creation

Page

Note: This is done by the System Administrator in order to create Student, Instructor, and Program Administrator accounts.

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------|--------|-------------------------------------------|--------------------------------------------------------------------|------------------|--------------------------------------------------------------------------|-----------------|----------|
| | 6.001 | Administrator Account Creation page loads | Correct page loads | N/A | Administrator Account Creation page loads and is appropriately displayed | | |
| | 6.002 | Enter accepted first name | System Administrator enters first name with no illegal characters. | Input first name | No illegal characters, the name is accepted | | |
| | 6.003 | Enter unaccepted first name | System Administrator enters first name with illegal characters | Input first name | Page reloaded with proper error message displayed | | |
| | 6.004 | Enter accepted last name | System Administrator enters last name with no illegal characters | Input last name | No illegal characters, the name is accepted | | |
| | 6.005 | Enter unaccepted last name | System Administrator enters last name with illegal characters. | Input last name | Page reloaded with proper error message displayed | | |

| | | | | | | | |
|--|-------|--------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------|--|--|
| | 6.006 | Enter accepted email address | System Administrator enters a unique and valid email address with legal characters | Input email address | No illegal characters, the email address is valid. The address is accepted | | |
| | 6.007 | Enter unaccepted email address | System Administrator enters a non-unique email address or one that is invalid or contains illegal characters | Input email address | Page reloaded with proper error message displayed | | |
| | 6.008 | Enter accepted password | System Administrator enters a password of the proper length with no illegal characters | Input password | Password is compared to confirmation password | | |
| | 6.009 | Enter unaccepted password | System Administrator enters a password not of the proper length or containing illegal characters | Input password | Page reloaded with proper error message displayed | | |
| | 6.010 | Confirm password correctly | System Administrator retypes the password correctly | Input password | Confirmation password matches password and is accepted. | | |

| | | | | | | | |
|-----------------------------------------|-------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| | 6.011 | Confirm password incorrectly | System Administrator retypes the password incorrectly | Input password | Confirmation password does not match the password. Page reloaded with proper error message displayed. | | |
| | 6.012 | Select Account Type | The type of account (Program Administrator, Instructor, or Student) is selected | System Administrator selects the account type from a drop-down menu | The user is successfully created as the specified type | | |
| | 6.013 | Select Course | The new user is assigned to the given course. Students are enrolled, Instructors instruct, and Program Administrators moderate | System Administrator selects the course from the Course List (if desired) | The user is successfully assigned to the specified course(s) | | |
| | 6.014 | Create Account button | System Administrator wishes to create the account | Student clicks "Submit" | If all fields are filled out and contain correct data, the information is stored. If a field is missing data, the proper error message is displayed. | | |
| = Summary of Tests for This Unit | | | | | | | |

Unit 7

Course Creation Page

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------------------------------------|--------|--------------------------|--------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------|-----------------|--------------------------------|
| | 7.001 | Course Creation page | Correct page loads | N/A | Course Creation page loads and is appropriately displayed | | |
| | 7.002 | Course Name selection | Course Name is selected | Course Name is selected from a drop-down menu | Course Name is accepted | | i.e. Intro to Computer Science |
| | 7.003 | Course Number selection | Course Number is selected | Course Number is selected from a drop-down menu | Course Number is accepted | | i.e. CSIS-110 |
| | 7.004 | Section Number selection | Course Section is selected | Course Section is selected from a drop-down menu | Section Number is accepted | | i.e. 05 |
| | 7.005 | Semester selection | Semester (Fall, Spring, or Summer) and the year are selected | Course Semester and year are selected from a drop-down menu | Semester/year are accepted | | |
| | 7.006 | Create button clicked | User wishes to create the course | User clicks the "Create" button | The course is successfully created | | |
| = Summary of Tests for This Unit | | | | | | | |

Unit 8

Question Set Publication

Test Case

| Pass/Fail | Number | Step | Description | Action Needed | Expected Result | Observed Result | Comments |
|-----------|--------|-------------------------------------|-----------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------|-----------------|------------------------------------|
| | 8.001 | Question Set Publication page loads | Correct page loads | N/A | Question Set Creation page loads and is appropriately displayed | | |
| | 8.002 | Enter accepted time available | User enters time available in the proper format with no illegal characters. | Input time available | Time available is accepted | | AM/PM is selected from a drop-down |
| | 8.003 | Enter unaccepted time available | User enters time available in an improper format or with illegal characters | Input time available | Page reloaded with proper error message displayed | | AM/PM is selected from a drop-down |
| | 8.004 | Enter accepted date available | User enters date available in the proper format with no illegal characters. | Input date available | Date available is accepted | | |
| | 8.005 | Enter unaccepted date available | User enters date available in an improper format or with illegal characters | Input date available | Page reloaded with proper error message displayed | | |
| | 8.008 | Enter accepted time due | User enters time due in the proper format with no illegal characters. | Input time due | Time due is accepted | | AM/PM is selected from a drop-down |

| | | | | | | | |
|--|-------|-------------------------------------|-----------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------|--|-----------------------------------------|
| | 8.007 | Enter unaccepted time due | User enters time due in an improper format or with illegal characters | Input time due | Page reloaded with proper error message displayed | | AM/PM is selected from a drop-down |
| | 8.008 | Enter accepted date due | User enters date due in the proper format with no illegal characters. | Input date due | Date due is accepted | | |
| | 8.009 | Enter unaccepted date due | User enters date due in an improper format or with illegal characters | Input date due | Page reloaded with proper error message displayed | | |
| | 8.010 | Enter accepted time limit | User enters time limit with no illegal characters | Input time limit | Time limit is accepted | | Time limit is in minutes |
| | 8.011 | Enter unaccepted time limit | User enters time limit with illegal characters | Input time limit | Page reloaded with proper error message displayed | | Time limit is in minutes |
| | 8.012 | Enter accepted number of attempts | User enters the number of attempts with no illegal characters | Input number of attempts | Number of attempts is accepted | | |
| | 8.013 | Enter unaccepted number of attempts | User enters the number of attempts with illegal characters | Input number of attempts | Page reloaded with proper error message displayed | | |
| | 8.014 | Allow Late Submissions | This option is selected if the user wishes to allow late submissions | The corresponding check-box is clicked | If checked, Students are allowed to submit questions beyond the due date. | | Late submissions will be marked as such |

| | | | | | | | |
|-----------------------------------------|-------|----------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------|
| | 8.015 | Viewable After Due Date | This option is selected if the user wishes for the question set to be viewable after it is due | The corresponding check-box is clicked | If checked, Students are allowed to view the question set after the due date and time | | Late submissions are not allowed unless previously specified |
| | 8.016 | Links Allowed | This option is selected if the user wished to allow the Students to access links for the questions in the question set | The corresponding check-box is clicked | If checked, Students have access to any links that have been provided at the time of question creation | | Links may not be provided |
| | 8.017 | Publish Set button clicked | User wishes to publish the question set | The "Publish Set" button is clicked | The question set is made available to Studnets in the section that the user is currently working under | | |
| = Summary of Tests for This Unit | | | | | | | |

Unit 8

Question Set Publication

(Continued)