

Test Results

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Generation Java

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Generation Java

Test Results

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Section 1: Introduction

1.1: Introduction & Testing Explanation

This document is the first of many possible versions that will be used to describe the testing requirements for the Generation Java. These are the requirements that need to be tested in order for the Generation Java to be considered fully functional. As the project development continues towards a completed project, the requirements will be fulfilled, and some items may be removed, or revised. This document will keep track of these changes, as well as those requirements that have been completed. Many updates will be made to this document in order to better prepare for the Acceptance Test document due in April 2009. An acceptance test is black-box testing performed on a system prior to its delivery. Generally involves running a suite of tests on the completed system. Each individual test, known as a case, exercises a particular operating condition of the user's environment or feature of the system, and will result in a pass or fail boolean outcome. The acceptance test suite is run against the supplied input data or using an acceptance test script to direct the testers.

The test plan will begin with system testing. System testing consists of software or hardware testing conducted on a complete, integrated system to evaluate the system's compliance with its specific requirements. System testing falls within the scope of black-box testing, and as such, should require no knowledge of the inner design of the code or logic. In system testing, our team is concerned with validating the specified functional requirements on the Generation Java system. The functional requirements of the Generation Java system will be tested in the system test along with non-functional requirements, exception handling, our approach to testing, and will end with the system's pass/fail criteria. This test is a crucial part of the test plan because it will help us determine if we met all of the requirements promised at the beginning of our work. Unit testing is where our team tests each unit individually to make sure that specific unit is free of data, logic, or standard errors. The units have been divided by screen in the system. Every screen in the web system has its own unit and within each unit are a number of test cases. These test cases test specific actions within each unit. The following units and test cases are represented in an Excel table format and as we progress and begin to produce our software, these units may become more in depth and more dense. The final portion of this document contains the integration and regression testing. Regression testing is any type of software testing which seeks to uncover software regressions. Such regressions occur when software functionality that was previously working correctly, stops working as intended. Typically regressions occur as an unintended consequence of program changes. Common methods of regression testing include re-running previously run tests and checking whether previously fixed faults have re-emerged. This is a crucial stage in the testing process because this is where the separate units tested before combine to become a whole. We are concerned with the functionality of the units together and how they interact with each other in this stage of testing. Finally our testing is complete with regression testing which is only incorporated if software functionality that was working normal, stops working completely or no longer works correctly. Regression testing is used to discover regression bugs which may be causing these errors. As the project continues to grow, so too will this test document.

Section 2: System Test

2.1: Test Items & Functional Requirements Inventory

Functional Requirements

Requirements grouped according to Use Case.

System Administrator:

There is only one System Administrator.

Once logged in, a System Administrator has three views available:

- Student YES NO
- Instructor YES NO
- Administrator YES NO

The System Administrator can perform different tasks based on which view is currently be used:

Student View

- Registration

- The System Administrator views the system as a Student that is registered in all possible courses.
YES NO
- The System Administrator is not seen as registered for any course by any user.
YES NO
- The System Administrator does not need to log out to switch between courses.
YES NO

- Questions/Question Sets
 - The System Administrator is able to attempt any of the question sets, including all homework, quiz, test, and practice sets.
YES NO
 - The System Administrator is able to save code to a database.
YES NO
 - Once code is compiled and executed, the System Administrator will receive feedback on it.
YES NO
 - The feedback received by the System Administrator is identical to that of a Student; however, it is not viewable by any Instructor.
YES NO
 - The System Administrator should be aware when the maximum number of attempts (if specified) has been reached on a question, but should not be restricted by it as a Student would be.
YES NO
 - The System Administrator has the ability to click any links (if provided and enabled) on any question.
YES NO
 - The System Administrator can view all files posted by all Instructors.
YES NO

Instructor View

- Registration
 - The System Administrator views the system as an Instructor that is instructing all possible courses.

- YES NO
 - The System Administrator is not seen as an Instructor of any course by any user.
YES NO
 - The System Administrator does not need to log out to switch between courses.
YES NO

- Questions/Question Sets
 - The System Administrator can create, edit, delete, and distribute all questions and question sets.
YES NO
 - The System Administrator can set a time and date for any question set to become available.
YES NO
 - The System Administrator can set a time and date for any questions set to be due.
YES NO
 - The System Administrator can assign point totals to any question set.
YES NO

- Instructor Privileges
 - The System Administrator can see all Students' last submissions and submission information for every (attempted) question in every question set.
YES NO

Administrator View

- The System Administrator can create, edit, and delete the following types of accounts:
 - Program Administrator
YES NO
 - Instructor
YES NO
 - Student
YES NO

- The System Administrator can set a timeout length for all sessions.

YES NO

- The System Administrator can add questions/question sets to the global pool.

YES NO

- The System Administrator may logout in any view.

YES NO

Program Administrator:

A Program Administrator coordinates one more sections/courses.

There may be multiple Program Administrators.

Program Administrators do not register.

A Program Administrator's account is created by the System Administrator.

Once logged in, a Program Administrator has three views available:

- Student YES NO

- Instructor YES NO
- Program Administrator YES NO

A Program Administrator can perform different tasks based on which view is currently be used:

Student View

- Registration
 - A Program Administrator views the system as a Student that is registered in all courses specified by the System Administrator.
YES NO
 - A Program Administrator is not seen as registered for any course by any user except by the System Administrator.
YES NO
 - A Program Administrator does not need to log out to switch between courses.
YES NO

- Questions/Question Sets
 - A Program Administrator is able to attempt any of the question sets specified by the System Administrator, including homework, quiz, test, and practice sets.
YES NO
 - A Program Administrator is able to save code to a database.
YES NO
 - Once code is compiled and executed, A Program Administrator will receive feedback on it.
YES NO
 - The feedback received by a Program Administrator is identical to that of a Student; however, it cannot be viewed by any Instructor.
YES NO
 - A Program Administrator's grades are not counted in any reports, including reports run by an Administrator.

- YES NO
- A Program Administrator should be aware when the maximum number of attempts (if specified) has been reached on a question, but should not be restricted by it as a Student would be.
YES NO
- A Program Administrator has the ability to click any links (if provided and enabled) on any question specified by the System Administrator.
YES NO
- A Program Administrator can view all files posted by Instructors specified by the System Administrator.
YES NO

Instructor View

- Registration
 - A Program Administrator views the system as an Instructor that is instructing all courses specified by the System Administrator.
YES NO
 - A Program Administrator is not seen as an Instructor of any course by any user.
YES NO
 - A Program Administrator does not need to log out to switch between courses.
YES NO
- Questions/Question Sets
 - A Program Administrator can create, edit, delete, and distribute course-specific questions and question sets.
YES NO
 - A Program Administrator can set a time and date for any question set specified by the System Administrator to become available.
YES NO
 - A Program Administrator can set a time and date for any questions set specified by the System Administrator to be due.
YES NO
 - A Program Administrator can assign point totals to any question set specified by the System Administrator.
YES NO

- Instructor Privileges
 - A Program Administrator can see all Students' (specified by the System Administrator) last submissions and submission information for every (attempted) question in every question set.
YES NO
 - A Program Administrator can see all Students' (specified by the System Administrator) statistics (including login information) and all statistics for every question in every question set (also specified by the System Administrator).
YES NO

Administrator View

- A Program Administrator can create, edit, and delete the following types of accounts:
 - Instructor YES NO
 - Student YES NO
- The Program Administrator can add question/question sets to any of the course-specific pools specified by the System Administrator.
YES NO
- The Program Administrator may logout in any view.
YES NO

Instructor:

An Instructor does not register.

An Instructor's account is created by a Program Administrator or the System Administrator.

Once logged in, an Instructor has two views available:

- Student YES NO
- Instructor YES NO

An Instructor can perform different tasks based on which view is currently be used:

Student View

- Registration
 - An Instructor views the system as a Student that is registered in all courses specified by the Program Administrator.
YES NO
 - An Instructor is not seen as registered for any course by any user.
YES NO
 - An Instructor does not need to log out to switch between courses.
YES NO
- Questions/Question Sets
 - An Instructor is able to attempt any of the question sets specified by the Program Administrator, including homework, quiz, test, and practice sets.
YES NO
 - An Instructor is able to save code to a database.
YES NO
 - Once code is compiled and executed, an Instructor will receive feedback on it.
YES NO
 - The feedback received by an Instructor is identical to that of a Student. No one else can view this feedback.

- YES NO
- An Instructor's grades are not counted in any reports, even reports run by an Administrator.
YES NO
- An Instructor should be aware when the maximum number of attempts (if specified) has been reached on a question, but should not be restricted by it as a Student would be.
YES NO
- An Instructor has the ability to click any links (if provided and enabled) on any question specified by the Program Administrator.
YES NO
- An Instructor can view all files posted by themselves or other Instructors specified by the Program Administrator.
YES NO

Instructor View

- Registration
 - An Instructor can view all courses specified by a Program Administrator.
YES NO
 - An Instructor is seen as the Instructor for all courses specified by the Program Administrator.
YES NO
 - An Instructor does not need to log out to switch between courses.
YES NO
 - If an Instructor wishes to teach a new course, the new course may be added by inputting the Course ID into the appropriate location. A Course ID is provided by the Program Administrator or System Administrator.
YES NO
- Questions/Question Sets
 - An Instructor has the ability to create, edit, and delete java questions in the Instructor's own private pool.
YES NO
 - An Instructor can upload a question or enter it into a text box.
YES NO
 - An Instructor may provide links to aid a Student.

- YES NO
 - An Instructor has the ability to create, edit and delete question sets in the Instructor's own private pool.
YES NO
 - An Instructor can use questions from the Instructor's private pool, the course-specific pool, or the global pool when creating question sets.
YES NO
 - When creating a question set, an Instructor can set point totals and a maximum number of attempts allowed for each question.
YES NO
 - An Instructor can set a time and date for a question set to become available and unavailable.
YES NO
 - If an Instructor wishes to add a question or question set to the course-specific pool, it must be submitted to the Program Administrator.
YES NO
 - If an Instructor wishes to add a question or question set to global pool, it must be submitted to the System Administrator.
YES NO
- Instructor Privileges
 - An Instructor can see all Students' (registered in the Instructor's course) last submissions and submission information for every (attempted) question in every question set.
YES NO
 - An Instructor may edit a Student's grade as seen fit.
YES NO
 - An Instructor may deny a student access to a course.
YES NO
 - An Instructor may post files that can be viewed by Students in the Instructor's course.
YES NO

An Instructor can log out in either view.
YES NO

Student:

A Student has only one view.

- Registration
 - A Student must register in a specific course by entering a Course ID in the appropriate location. (A Course ID is provided by the Instructor of that course)
YES NO
 - A Student may be registered in multiple courses under the same username and password.
YES NO
 - A Student does not need to log out in order to change which course is currently being worked in.
YES NO

- Question Sets
 - A Student has the ability to view and attempt any question set provided by the Instructor.
YES NO
 - When a Student submits code, feedback is returned indicating the code's degree of correctness.
YES NO
 - A Student can retry a question until the number of attempts (if specified) has run out.
YES NO
 - A Student may see only their own grades and statistics.
YES NO

- Additional Privileges/Restrictions
 - A Student may view any link or file provided by the Instructor (if enabled).
YES NO
 - A Student may not click out of the testing window during a test or the test will be terminated.
YES NO
 - A Student may log out as desired.
YES NO

2.2: Non-Functional Requirements Inventory Testing

- The system should be quick and smooth, using fast servers and databases
- The system should also be aesthetically pleasing.

2.3: Exception Handling

Exception Handling is a method used by the system to detect and recover from exceptional conditions. An exceptional condition is any unexpected occurrence that cannot be accounted for in a system's normal operation. The developers of Generation Java realize that it can be difficult to protect a system from the effects of exceptional conditions because, by nature, they are unusual occurrences that can generally not be anticipated. Therefore, the developers of Generation Java will implement programmed and default exception handlers that will attempt to recover the system from any unanticipated conditions.

Programmed exception handling modules are mechanics built into software for specific exceptional cases that are known and are likely to occur. Since these occurrences are relatively well understood, protection for them will be incorporated into Generation Java. For example, if the User does not provide all of the required information for registration, then the system will prompt them to resubmit their information again with the proper data.

For all exceptional conditions that are not anticipated by the system developers, a default exception handler will be built in. The default exception handlers must catch-all unexpected exceptions and return the system to a normal state of operation.

2.4: Approach to Testing

Software testing is an activity aimed at verifying that a correct solution to the problem has been developed such that it satisfies the functional and non-functional requirements.

In general, most of these outlined in the document will be unit and integration testing. System-level testing will also be carried out and documented on the components once they have been fully developed.

It is also important to note that in general, our testing will be structured to evaluate correctness of the code. It is anticipated since the future phases of code development will be focused on performance enhancement, performance of the code (a non-functional requirement) will then be monitored closely. Consequently, routine performance testing should be unnecessary, while testing for correctness will be important as changes are made to speed up the code.

2.5: Pass/Fail Criteria

In order to ensure that the system as a whole passes testing, we must start with each individual piece. The following is a checklist of the major requirements, some of which are based on screens, to ensure that each item has either passed or failed. In order for an item to pass, it will have to undergo its specific unit test as provided. If the unit test causes a failure in the system, we will then need to fix it and use regression testing to re-test the unit/requirement.

Page being tested	Testing for	Expected Outcome	Pass	Fail	Comment
Login Page	Does the screen load?	The screen will load correctly and the users will have ability to type in their login info	✓		
Forgot Password	Does the screen load?	The screen will load correctly and the users will have ability to type in their user name	✓		
Student Home Screen	Does the screen load?	The screen will load with the user's information on their home page			
System Admin Home Screen	Does the screen load?	The screen will load with the user's information on their home			

		page			
Prg Admin Home screen	Does the screen load?	The screen will load with the user's information on their home page			
Instructor Home Screen	Does the screen load?	The screen will load with the user's information on their home page			
Student Acct Creation	Does the screen load? Is all the data uploaded to the database correctly?	The screen will load correctly and the users will have ability to type in their login info	✓		
Std Acct Creation Pop-up	Does the screen load?	The screen will load correctly and the users will have ability to type in their login info	✓		
Created Acct – sys admin	Does the screen load? Is all the data uploaded to the database correctly?	The screen will load correctly and the users will be registered and receive	✓		

		an e-mail			
Created user acct sys admin	Does the screen load?				
Create Question	Does the screen load? Is all the data uploaded to the database correctly?				
Student Question / Q set answer	Does the screen load? Is all the data uploaded to the database correctly?				
Student gradebook	Does the screen load?				
Administrator gradebook	Does the screen load? Is all the data uploaded to the database correctly?				
Instructor Gradebook	Does the screen load? Is all the data uploaded to the database correctly?				
System admin – course mngment –	Does the screen load? Is all the data				

link to new course	uploaded to the database correctly?				
Sa – create course	Does the screen load? Is all the data uploaded to the database correctly?	Will display that the course has successfully been created and allow the sys admin to create another course	✓		
Instructor – published content pool	Does the screen load?				
Instructor – my pool	Does the screen load?				
Instructor – course pool	Does the screen load?				
Instructor – global pool	Does the screen load?				
Question Set Creation	Does the screen load? Is all the data uploaded to the database correctly?				
Question Set Adding a Question	Does the screen load? Is all the data uploaded to the database correctly?				

Submitted Created Question	Does the screen load?				
Question Set Publication	Does the screen load? Is all the data uploaded to the database correctly?				
Editing Live Question	Does the screen load? Is all the data uploaded to the database correctly?				
Editing Live Question set	Does the screen load? Is all the data uploaded to the database correctly?				
Acct Management Student	Does the screen load? Is all the data uploaded to the database correctly?				
Acct Management Instructor	Does the screen load? Is all the data uploaded to the database correctly?				

Acct Management Prg Admin	Does the screen load? Is all the data uploaded to the database correctly?				
Acct Management Sys Admin	Does the screen load? Is all the data uploaded to the database correctly?				
Course home page – std	Does the screen load?				
Course home pg – instructor, admins	Does the screen load?				
Pool management prg admin	Does the screen load? Is all the data uploaded to the database correctly?				
Pool management – sys admin	Does the screen load? Is all the data uploaded to the database correctly?				
Std quest run & compile	Does the screen load?				
Pop – up save	Does the				

question	screen load?				
Created course – sys admin	Does the screen load?				
Approval global pool requests – sa	Does the screen load? Is all the data uploaded to the database correctly?				
Approval course pool requests - pa	Does the screen load? Is all the data uploaded to the database correctly?				
Create User Accounts – prog admin	Does the screen load? Is all the data uploaded to the database correctly?				
Create Section	Does the screen load? Is all the data uploaded to the database correctly?	The screen will load correctly and display that the section has been created	✓		

Section 3: Unit Tests

3.1 Unit Test Catalog

Test Result	Test Number	Unit Test Name
PASS	1	Login Page
PASS	2	Forgot Password
PASS	3	Student Home Screen
PASS	4	System Admin Home Screen
PASS	5	Prg Admin Home screen
PASS	6	Instructor Home Screen
PASS	7	Student Acct Creation
NO LONGER USED	8	Std Acct Creation Pop-up
PASS	9	Created Acct – sys admin
NO LONGER USED	10	Created user acct sys admin
PASS	11	Create Question
PENDING	12	Student Question / Q set answer
IN PRODUCTION	13	Student grade book
IN PRODUCTION	14	Administrator grade book
IN PRODUCTION	15	Instructor grade book
NO LONGER USED	16	System admin – course mngment – link to new course
PASS	17	Sa – create course
PENDING	18	Instructor – published content pool
PASS	19	Instructor – my pool
PASS	20	Instructor – course pool
PASS	21	Instructor – global pool
PASS	22	Question Set Creation
PASS	23	Question Set Adding a Question

NO LONGER USED	24	Submitted Created Question
IN PRODUCTION	25	Question Set Publication
PENDING	26	Editing Live Question
PENDING	27	Editing Live Question set
PASS	28	Acct Management Student
PASS	29	Acct Management Instructor
PASS	30	Acct Management Prg Admin
PASS	31	Acct Management Sys Admin
PASS	32	Course home page – std
PASS	33	Course home pg – instructor, admins
IN PRODUCTION	34	Pool management prg admin
IN PRODUCTION	35	Pool management – sys admin
PENDING	36	Std quest run & compile
NO LONGER USED	37	Pop – up save question
NO LONGER USED	38	Created course – sys admin
IN PRODUCTION	39	Approval global pool requests – sa
IN PRODUCTION	40	Approval course pool requests - pa
PASS	41	Create User Accounts - pa
PASS	42	Create Section

Unit 1

Login Page

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	1.001	Login page loads	Correct page loads	N/A	Login page loads and is appropriately displayed		
P	1.002	Correct login: Student	Login with valid Student account and password.	Input Student email address and password	Student Welcome Page opens		
P	1.003	Correct login: Instructor	Login with valid Instructor account and password.	Input Instructor email address and password	Instructor Welcome Page opens		
P	1.004	Correct login: Program Administrator	Login with valid Program Administrator account and password	Input Program Administrator email address and password	Program Administrator Welcome Page opens		
P	1.005	Correct login: System Administrator	Login with valid System Administrator account and password	Input System Administrator email address and password	System Administrator Welcome Page opens		
P	1.006	Incorrect username login	User attempts to log in with invalid username	Input username	Error message stating that the username is incorrect is displayed		
P	1.007	Incorrect password login	User attempts to log in with invalid password	Input password	Error message stating that the password is incorrect is displayed		
P	1.008	New Account link clicked	A Student wishes to register a new account	User clicks "New Account"	Student Account Creation Page loads correctly		

P	1.009	Forgot Password link clicked	A user wishes to receive their password via email	User clicks "Forgot Password"	Forgot Password Confirmation Page loads correctly		
P	1.010	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 2 Forgot Password
Pop-up

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	2.001	Forgot Password Page Pop Up	Forgot Password Page Pop Ups	N/A	Forgot Password page pop-ups and is appropriately displayed		
P	2.002	Pop-up allows student to enter user name	Student must enter username to have password e-mailed	Input Student username	Password is e-mailed to the student		

Unit 3

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
P	3.001	Student Home Page loads	Correct page loads	N/A	Student Home Page loads and is appropriately displayed		
P	3.002	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		
F	3.003	Gradebook button clicked	A Student wishes to view the Gradebook	Student clicks the "Gradebook" link	Student Gradebook is correctly reloaded		Gradebook feature has not been created
P	3.004	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 selected course		
F	3.005	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 selected course		
P	3.006	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 4

System Administrator Home Page

Note: Assume the System Administrator has successfully logged in.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
	4.001	System Administrator Home Page loads	Correct page loads	N/A	Student Home Page loads and is appropriately displayed		
	4.002	Home button clicked	The System Administrator wishes to go to the Home Page	System Administrator clicks the "Home" link	System Administrator Home Page is loads and is appropriately displayed		
	4.003	Global Pool request button clicked	The System Administrator wishes to view Global Pool requests	System Administrator clicks the "Global Pool" link	Global Pool request page is correctly loaded		
	4.004	Change view	The System Administrator wishes to change view	Desired view selected	The System Administrator's view changes to the selected view		Views are selected from a drop-down menu
	4.005	Course clicked	The System Administrator wishes to view the page of a particular course	System Administrator clicks a course	Correct page is loaded for the selected course		
	4.006	Logout button clicked	The System Administrator 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 5

Program Administrator Home Page

Note: Assume a Program Administrator has successfully logged in. A Program Administrator refers to a Program Administrator user, or the System Administrator in the Program Administrator view.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	5.001	Program Administrator Home Page loads	Correct page loads	N/A	Program Administrator Home Page loads and is appropriately displayed		
P	5.002	Home button clicked	A Program Administrator wishes to go to the Home Page	Program Administrator clicks the "Home" link	Program Administrator Home Page is loads and is appropriately displayed		
P	5.003	Course Pool request button clicked	A Program Administrator wishes to view the Course Pool requests	Program Administrator clicks the "Course Pool" link	Course Pool request page is loaded correctly		
P	5.004	Current course clicked	A Program Administrator wishes to view the page of a particular course	Program Administrator clicks a course	Correct page is loaded for the selected course		
F	5.005	Change view	A Program Administrator wishes to change view	Desired view selected	A Program Administrator's view changes to the selected view		Views are selected from a drop-down menu
P	5.006	Logout button clicked	A Program Administrator wishes to log out	Program Administrator clicks the logout button	The user is successfully logged out and redirected to the login screen		
= Summary of Tests for This Unit							

Unit 6

Instructor Home Page

Note: Assume an Instructor has successfully logged in. An Instructor refers to an Instructor user, or any user in the Instructor view.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	6.001	Instructor Home Page loads	Correct page loads	N/A	Instructor Home Page loads and is appropriately displayed		
P	6.002	Home button clicked	An Instructor wishes to go to the Home Page	Instructor clicks the "Home" link	Instructor Home Page is loads and is appropriately displayed		
F	6.003	Gradebook clicked	An Instructor wishes to view the Gradebook	Instructor clicks the "Gradebook" link	Instructor Gradebook is correctly reloaded		Gradebook feature has not been created
P	6.004	Current course clicked	An Instructor wishes to view the page of a particular course	Instructor clicks a course	Correct page is loaded for the selected course		
F	6.005	Change view	An Instructor wishes to change view	Desired view selected	The Instructor's view changes to the selected view		Views are selected from a drop-down menu
P	6.006	Logout button clicked	An Instructor wishes to log out	Instructor clicks the logout button	The user is successfully logged out and redirected to the login screen		
= Summary of Tests for This Unit							

Unit 7**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
P	7.001	Student Account Creation page loads	Correct page loads	N/A	Student Account Creation page loads and is appropriately displayed		
P	7.002	Enter accepted first name	Student enters first name with no illegal characters	Input first name	No illegal characters, the name is accepted		
P	7.003	Enter unaccepted first name	Student enters first name with illegal characters	Input first name	Page reloaded with proper error message displayed		
P	7.004	Enter accepted last name	Student enters last name with no illegal characters	Input last name	No illegal characters, the name is accepted		
P	7.005	Enter unaccepted last name	Student enters last name with illegal characters	Input last name	Page reloaded with proper error message displayed		
P	7.006	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		
P	7.007	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		

P	7.008	Enter accepted password	Student enters a password of the proper length with no illegal characters	Input password	Password is compared to confirmation password		
P	7.009	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		
P	7.010	Confirm password correctly	Student retypes the password correctly	Input password	Confirmation password matches password and is accepted.		
P	7.011	Confirm password incorrectly	Student retypes the password incorrectly	Input password	Confirmation password does not match the password. Page reloaded with proper error message displayed.		
= Summary of Tests for This Unit							

Unit 8

Student Account Created Pop-up

Note: A student has just successfully created an account and attempt to log in with it for the first time. Their information is entered and the "Continue" button is clicked.

Test Case

Pass/Fail	Number		Description	Action Needed	Expected Result	Observed Result	Comments
		Step					
P	8.001	Student Account Created Pop-up page loads	Correct page loads	N/A	Student Account Created Pop-up page loads and is appropriately displayed		
P	8.002	Correct login	Log in with valid ID and password	Student enters ID and password	Student is logged in		
P	8.003	Incorrect login	Student attempts to log in with an invalid ID or password	Student enters an invalid ID or password	Page reloaded with proper error message displayed		

Unit 9

Created Account – System Administrator

Test Case

Pass/Fail	Number		Description	Action Needed	Expected Result	Observed Result	Comments
		Step					
	9.001	Account Created Pop-up page loads	Correct page loads	N/A	Account Created Pop-up page loads and is appropriately displayed		This page is no longer included
	9.002	Create another account	The System Administrator wishes to create another account	“Create Another Account” Button clicked	The account create page loads correctly		This page is no longer included
	9.003	Return to homepage	The System Administrator wishes to return to the homepage	“Return to Homepage” button clicked	The System Administrator homepage loads correctly		This page is no longer included

Unit 10

Create User Account – System Administrator

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	10.001	Account Creation page loads	Correct page loads	N/A	Account Creation page loads and is appropriately displayed		
P	10.002	Enter accepted first name	System Administrator enters first name with no illegal characters	Input first name	No illegal characters, the name is accepted		
P	10.003	Enter unaccepted first name	System Administrator enters first name with illegal characters	Input first name	Page reloaded with proper error message displayed		
P	10.004	Enter accepted last name	System Administrator enters last name with no illegal characters	Input last name	No illegal characters, the name is accepted		
P	10.005	Enter unaccepted last name	System Administrator enters last name with illegal characters	Input last name	Page reloaded with proper error message displayed		

P	10.006	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		
P	10.007	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		
P	10.008	Enter accepted password	System Administrator enters a password of the proper length with no illegal characters	Input password	Password is compared to confirmation password		
P	10.009	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		

P	10.010	Confirm password correctly	System Administrator retypes the password correctly	Input password	Confirmation password matches password and is accepted.		
P	10.013	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.		
= Summary of Tests for This Unit							

Unit 11

Question Creation

Note: Assume a user has just clicked the "Submit" button.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	11.001	Question Creation page loads	Correct page loads	N/A	Question Creation page loads and is appropriately displayed		
P	11.002	Enter acceptable question title	Question title contains no illegal characters	Input a question title	No illegal characters, question title is accepted		
P	11.003	Enter unacceptable question title	Question title contains illegal characters	Input a question title	Page reloaded with proper error message displayed		
P	11.004	Enter acceptable question	Question contains no illegal characters	Input a question	No illegal characters, question is accepted		
P	11.005	Enter unacceptable question	Question contains illegal characters	Input a question	Page reloaded with proper error message displayed		
P	11.006	Enter acceptable method signature	Method signature contains no illegal characters	Input a method signature	No illegal characters, method signature is accepted		
P	11.007	Enter unacceptable method signature	Method signature contains illegal characters	Input a method signature	Page reloaded with proper error message displayed		
P	11.008	Enter acceptable viewable test cases	Viewable test cases contain no illegal characters and are in the proper format	Input viewable test cases	No illegal characters and proper format, viewable test cases are accepted		
P	11.009	Enter unacceptable viewable test	Viewable test cases contain illegal characters	Input viewable test cases	Page reloaded with proper error message displayed		

		cases	or are in an improper format				
P	11.010	Enter acceptable hidden test cases	Hidden test cases contain no illegal characters and are in the proper format	Input hidden test cases	No illegal characters and proper format, hidden test cases are accepted		This field can be left blank
P	11.011	Enter unacceptable hidden test cases	Hidden test cases contain illegal characters or are in an improper format	Input hidden test cases	Page reloaded with proper error message displayed		This field can be left blank
P	11.012	Enter acceptable solution	Solution contains no illegal characters	Input a solution	No illegal characters, the solution is accepted		This field can be left blank
P	11.013	Enter unacceptable solution	Solution contains illegal characters	Input a solution	Page reloaded with proper error message displayed		This field can be left blank
P	11.014	Enter acceptable hints	Hints contain no illegal characters	Input hints	No illegal characters, the hints are accepted		This field can be left blank
P	11.015	Enter unacceptable hints	Hints contain illegal characters	Input hints	Page reloaded with proper error message displayed		This field can be left blank
P	11.016	Select a category	User selects a category	Click a category	Selected category is assigned to the question		The categories are check boxes
P	11.017	Do not select a category	User neglects to select a category	N/A	Page reloaded with proper error message displayed		The categories are check boxes
P	11.018	Select if recursion is required	User selects "Yes" or "No"	Click an option	If "Yes" the solution will require recursion; if "No" it will not		The options are check boxes
P							
	11.019	Do not select if recursion is required	User fails to select "Yes" or "No"	N/A	Page reloaded with proper error message displayed		The options are check boxes
F	11.020	Upload a	User uploads a	User clicks	File is successfully		Uploading is

		file successfully	valid file	"Browse" and selects a file	uploaded		optional
F	11.021	Upload a file unsuccessfully	User uploads a file that is invalid	User clicks "Browse" and selects a file	Page reloaded with proper error message displayed		Uploading is optional
= Summary of Tests for This Unit							

Unit 12

Student Question / Question Set
 Answer Page

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
P	12.001	Solution Submission page loads correctly	Correct page loads	N/A	Solution Submission page loads and is appropriately displayed		
F	12.002	Save code on submission	Verify test is saved in the database	Code submission	Code submission saved in the database		
F	12.003	Student enters valid code	Validate text for legal characters	Code submission	No illegal characters		
F	12.004	Student enters invalid code	Validate text for legal characters	Code Submission	Proper error message displayed		
P	12.005	Student enters code that compiles	Compile submission using Java 1.6 Compiler	Code submission	No compilation errors		
F	12.006	Student enters code that does not compile	Compile submission using Java 1.6 Compiler	Code submission	Proper compilation errors displayed		
P	12.007	Student enters correct code	Run test cases through submission code	Code submission & Question Test Cases	Correct test case output is returned by code submission, all cases pass		
F	12.008	Student enters incorrect code	Run test cases through submission code	Code submission & Question Test Cases	The student is notified as to whether or not specific test cases were passed or not		
= Summary of Tests for This Unit							

Unit 13

Student - Gradebook

Note:

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
F	13.001	Student Grade book Page Loads Correctly	Correct page loads	N/A	Student Grade book page loads and is appropriately displayed		
F	13.002	Student's completed assignments appear as hyper links	Students are able to navigate to completed assignments	Click on completed assignments	Student is navigated to completed assignment		
F	13.003	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		
F	13.004	Logout button is clicked	A Student wishes to logout	Student clicks the logout button	Student is logged out and redirected and to login page		

Unit 14

Admin Gradebook

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	14.001	Admin Grade book Page Loads Correctly	Correct page loads	N/A	Admin Grade book page loads and is appropriately displayed		
P	14.002	Admin's assignments appear as hyper links	Admins are able to navigate to assignments	Click on completed assignments	Admin is navigated to completed assignment		
P	14.003	Home button clicked	An Admin wishes to go to the Home Page	Admin clicks the "Home" link	Admin Home Page is loads and is appropriately displayed		
P	14.004	Logout button is clicked	An Admin wishes to logout	Admin clicks the logout button	Adminis logged out and redirected and to login page		
= Summary of Tests for This Unit							

Unit 15

Instructor - Gradebook

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	15.001	Instructor Grade book Page Loads Correctly	Correct page loads	N/A	Instructor Grade book page loads and is appropriately displayed		
P	15.002	Instructor's assignments appear as hyper links	Instructors are able to navigate to assignments	Click on completed assignments	Instructor is navigated to completed assignment		
P	15.003	Home button clicked	A Instructor wishes to go to the Home Page	Instructor clicks the "Home" link	Instructor Home Page is loads and is appropriately displayed		
P	15.004	Logout button is clicked	A Instructor wishes to logout	Instructor clicks the logout button	Instructor is logged out & redirected and to login pg.		
= Summary of Tests for This Unit							

Unit 16

System Administrator Course Management

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

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	16.001	Course Management page loads	Correct page loads	N/A	Course Management page loads and is appropriately displayed		
P	16.002	Edit a course	The System Administrator wishes to edit a course	The System Administrator clicks the 'Edit' button next to the appropriate course	The System Administrator is brought to a page where the course can be edited.		
F	16.003	Remove a course	The System Administrator wishes to remove a course	The System Administrator clicks the 'Remove' button next to the appropriate course	The course is removed		
P	16.004	New course	The System Administrator wishes to add a new course	The System Administrator click the 'New Course' button	The System Administrator is brought to a page where a new course can be created		
= Summary of Tests for This Unit							

Unit 17

Course Creation Page

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	17.001	Course Creation page	Correct page loads	N/A	Course Creation page loads and is appropriately displayed		
P	17.002	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
	17.003	Course Number selection	Course Number is selected	Course Number is selected from a drop-down menu	Course Number is accepted		Now done in create section Unit 42
	17.004	Section Number selection	Course Section is selected	Course Section is selected from a drop-down menu	Section Number is accepted		Now done in create section Unit 42
	17.005	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		Now done in create section Unit 42
P	17.006	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 18

Instructor – Published Content Pool

Number	Test Case Name	Description	Input	Expected Result	Actual Result/Comments	Test Result
18.001	Published Content loads	Published Content loads	N/A	Published Question Sets are properly listed		F
18.002	Filter by Date	Filter content by date added	Select Filter by Date	The Published Content list gets filtered by the date they were published		F
18.003	Filter by Date Range	Filter content by the dates in the specified range	Select Filter by Date Range	The Published Content list gets filtered by the dates in the specified date range, beginning with the most recent		F
18.004	Filter by Type	Filter content by type	Select Filter by Type	The Published Content list gets filtered by the types of question sets		F
18.005	Preview a Published Question Set	Preview a Published Question Set	Click Preview	A preview of the published question set is loaded in a pop-up window		F
18.006	Edit a Published Question Set	Edit a published question set	Click Edit	Loads the Editing a Live Question Set page		F
18.007	Unpublish a Question Set	Unpublish a question set	Click Unpublish	The question set gets unpublished and is removed from the published content list		F

Unit 19

Instructor - My Pool

Number	Test Case Name	Description	Input	Expected Result	Actual Result/Comments	Test Result
19.001	My Pool content loads	My Pool content loads	N/A	My Pool content is loaded with all proper questions and question sets		P
19.002	Choose Questions Tab	Choose Questions Tab	Click on Questions tab	Questions in My Pool are populated and listed		F
19.003	Choose Question Sets Tab	Choose Question Sets Tab	Click on Question Sets tab	Question Sets in My Pool are populated and listed		F
19.004	Filter by Date	Filter content by date added	Select Filter by Date	My Pool Content gets filtered by the date they were published		F
19.005	Filter by Date Range	Filter content by the dates in the specified range	Select Filter by Date Range	My Pool content gets filtered by the dates in the specified date range, beginning with the most recent		F
19.006	Filter by Type	Filter content by type	Select Filter by Type	My Pool Content gets filtered by the types of question sets or questions		F
19.007	Publish content	Publish content	Click the publish button	Publishes the designated question or question set		F

19.008	Preview content	Preview content	Click the preview button	Displays a preview of the designated question or question set in a pop-up window		P
19.009	Delete content	Delete content	Click the delete button	Removes the designated question or question set from the content list		P
19.010	Global Pool Request	Global Pool Request	Click the Global Request button	A request is sent to the System Admin asking permission to move the designated question or question set to the Global Pool		F
19.011	Course Pool Request	Course Pool Request	Click the Course Request button	A request is sent to the System Admin asking permission to move the designated question or question set to the Course Pool		F

Unit 20

Instructor - Course Pool

Number	Test Case Name	Description	Input	Expected Result	Actual Result/Comments	Test Result
20.001	Course Pool content loads	Course Pool content loads	N/A	Course Pool content is loaded with all proper questions and question sets		P
20.002	Global Pool tab	Choose Global Pool tab	Click on Global Pool tab	Questions/Sets in Global Pool are populated and listed		P
20.003	My Pool tab	Choose My Pool tab	Click on My Pool tab	Question/Sets in My Pool are populated and listed		P
20.004	Published Pool tab	Choose Published Pool tab	Click on Published Pool tab	Questions/Sets in Published Pool are populated and listed		F
20.005	Edit	Instructor wishes to edit a question/set	Click "Edit"	Redirected to a page to edit the question/set		P
20.006	Remove	Instructor wished to remove a question/set	Click "Remove"	The appropriate item is removed from the pool		P
20.007	Preview content	Preview content	Click the question/set title	Displays a preview of the designated question or question set in a pop-up window		F

20.008	Add to My Pool	Add to My Pool	Click Add to My Pool button	Adds the selected question or question set to My Pool		F
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Unit 21

Instructor - Global Pool

Number	Test Case Name	Description	Input	Expected Result	Actual Result/Comments	Test Result
21.001	Global Pool content loads	Global Pool content loads	N/A	Global Pool content is loaded with all proper questions and question sets		P
21.002	Course Pool tab	Choose Course Pool tab	Click on Course Pool tab	Questions/Sets in Course Pool are populated and listed		P
21.003	My Pool tab	Choose My Pool tab	Click on My Pool tab	Question/Sets in My Pool are populated and listed		P
21.004	Published Pool tab	Choose Published Pool tab	Click on Published Pool tab	Questions/Sets in Published Pool are populated and listed		F
21.005	Preview content	Preview content	Click the question/set title	Displays a preview of the designated question or question set in a pop-up window		F
21.006	Add to My Pool	Add to My Pool	Click Add to My Pool button	Adds the selected question or question set to My Pool		P

Unit 22

Question Set Creation

Note: "Create" button is clicked

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	22.001	Question Set Creation page loads	Correct page loads	N/A	Question Set Creation page loads and is appropriately displayed		
P	22.002	Enter acceptable title	Name entered with no illegal characters.	Input title	No illegal characters, the name is accepted		
F	22.003	Enter unaccepted name	Name entered with illegal characters	Input title	Page reloaded with proper error message displayed		
P	22.004	Select a category	User selects a category	Desired category is clicked	The appropriate category is applied to the set		The categories are contained in a drop-down menu
F	22.004	Select a type	User selects a type	Desired type is clicked	The appropriate type is applied to the set		The types are contained in a drop-down menu
= Summary of Tests for This Unit							

Unit 23

Adding Question to Question Set

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	23.001	Question Set (Adding Questions) page loads	Correct page loads	N/A	Login page loads and is appropriately displayed		
P	23.002	Question set(s) selected	User selects one or more question sets to add a question to	Question set clicked	The correct question is added to the appropriate set		Question sets are check-boxes
F	23.003	Question set(s) not selected	User neglects to select a question set	N/A	Page reloaded with proper error message displayed		Question sets are check-boxes
F	23.004	Pool selection	User chooses which pool to draw questions from	Pool clicked	Question area is populated with the appropriate questions		Pool are in a drop-down menu
P	23.005	Question(s) selected	User selects one or more questions	Question clicked	The correct question is added to the appropriate set		Questions are check-boxes
F	23.007	Question(s) not selected	User neglects to select a question	N/A	Page reloaded with proper error message displayed		
F	23.008	Preview	User wished to preview a question	Appropriate preview button clicked	Question preview appears in a pop-up		
F	23.009	Create question	User wishes to create a new question	"Add New Question" button is clicked	User is redirected to the appropriate Question Creation page		
P	23.010	Add question	User adds a question to the set	A question is selected and the "Add Questions	Question is added to the Question Set successfully		

				to Set” button is clicked			
= Summary of Tests for This Unit							

Unit 24

Submitted Created Question Pop-up

Assume: A user has just created a question.

Test Case

Pass/Fail	Number		Description	Action Needed	Expected Result	Observed Result	Comments
		Step					
	24.001	Submitted Created Question Pop-up page loads	Correct page loads	N/A	Submitted Created Question Pop-up page loads and is appropriately displayed		No longer used
	24.002	Create another question	User wishes to create another question	Click “Create Another Question” button	The Question Create screen loads correctly		No longer used
	24.003	Return to homepage	User wishes to return to their homepage	Click “Return to Homepage” button	The proper homepage loads correctly		No longer used

Unit 25

Question Set Publication

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
F	25.001	Question Set Publication page loads	Correct page loads	N/A	Question Set Creation page loads and is appropriately displayed		
F	25.002	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
F	25.003	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
F	25.004	Enter accepted date available	User enters date available in the proper format with no illegal characters	Input date available	Date available is accepted		
F	25.005	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		
F	25.006	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

F	25.007	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
F	25.008	Enter accepted date due	User enters date due in the proper format with no illegal characters	Input date due	Date due is accepted		
F	25.009	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		
F	25.010	Enter accepted time limit	User enters time limit with no illegal characters	Input time limit	Time limit is accepted		Time limit is in minutes
F	25.011	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
F	25.012	Enter accepted number of attempts	User enters the number of attempts with no illegal characters	Input number of attempts	Number of attempts is accepted		
F	25.013	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		
F	25.014	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

F	25.015	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
F	25.016	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
F	25.017	Publish Set button clicked	User wishes to publish the question set	The "Publish Set" button is clicked	The question set is made available to Students in the section that the user is currently working under		
= Summary of Tests for This Unit							

Unit 26

Editing Live Question

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
F	26.001	Editing Live Question page loads	Correct page loads	N/A	Editing Live Question page loads and is appropriately displayed		
F	26.002	Enter acceptable question title	Question title contains no illegal characters	Input a question title	No illegal characters, question title is accepted and applied		
F	26.003	Enter unacceptable question title	Question title contains illegal characters	Input a question title	Page reloaded with proper error message displayed		
F	26.004	Enter acceptable question	Question contains no illegal characters	Input a question	No illegal characters, question is accepted and applied		
F	26.005	Enter unacceptable question	Question contains illegal characters	Input a question	Page reloaded with proper error message displayed		
F	26.006	Enter acceptable method signature	Method signature contains no illegal characters	Input a method signature	No illegal characters, method signature is accepted and applied		
F	26.007	Enter unacceptable method signature	Method signature contains illegal characters	Input a method signature	Page reloaded with proper error message displayed		
F	26.008	Enter acceptable viewable test cases	Viewable test cases contain no illegal characters and are in the proper format	Input viewable test cases	No illegal characters and proper format, viewable test cases are accepted and applied		
F	26.009	Enter unacceptable viewable test cases	Viewable test cases contain illegal characters or are in an improper format	Input viewable test cases	Page reloaded with proper error message displayed		

F	26.010	Enter acceptable hidden test cases	Hidden test cases contain no illegal characters and are in the proper format	Input hidden test cases	No illegal characters and proper format, hidden test cases are accepted and applied		This field can be left blank
F	26.011	Enter unacceptable hidden test cases	Hidden test cases contain illegal characters or are in an improper format	Input hidden test cases	Page reloaded with proper error message displayed		This field can be left blank
F	26.012	Enter acceptable solution	Solution contains no illegal characters	Input a solution	No illegal characters, the solution is accepted and applied		This field can be left blank
F	26.013	Enter unacceptable solution	Solution contains illegal characters	Input a solution	Page reloaded with proper error message displayed		This field can be left blank
F	26.014	Enter acceptable hints	Hints contain no illegal characters	Input hints	No illegal characters, the hints are accepted and applied		This field can be left blank
F	26.015	Enter unacceptable hints	Hints contain illegal characters	Input hints	Page reloaded with proper error message displayed		This field can be left blank
F	26.016	Select a category	User selects a category	Click a category	Selected category is assigned to the question and applied		The categories are check boxes
F	26.017	Do not select a category	User neglects to select a category	N/A	Page reloaded with proper error message displayed		The categories are check boxes
F	26.018	Select if recursion is required	User selects "Yes" or "No"	Click an option	If "Yes" the solution will require recursion; if "No" it will not. The change is then applied to the live set.		The options are check boxes
F	26.019	Do not select if recursion is required	User fails to select "Yes" or "No"	N/A	Page reloaded with proper error message displayed		The options are check boxes
F	26.020	Upload a file successfully	User uploads a valid file	User clicks "Browse" and	File is successfully uploaded		Uploading is optional

				selects a file			
F	26.021	Upload a file unsuccessfully	User uploads a file that is invalid	User clicks "Browse" and selects a file	Page reloaded with proper error message displayed		Uploading is optional
= Summary of Tests for This Unit							

Unit 27

Editing Live Question Set

Number	Test Case Name	Description	Input	Expected Result	Actual Result/Comments	Test Result
27.001	Editing Live Question Set page loads	Editing Live Question Set page loads	N/A	Editing Live Question Set page loads with all content displayed		F
27.002	Preview a Question	Preview a Question	Click on the Preview button	A preview of the question is displayed in a pop-up window		F
27.003	Edit a Question	Edit a Question	Click on the Edit button	Directs you to the Question Creation page with all fields filled with the correct question information		F
27.004	Change of Point Value	Correctly change the point value of a question	Type into the point change field	The new point value gets entered into the field		F
27.005	Change Due Date	Change the Due Date of a question	Type into the Edit Due Date field	The new date gets entered into the field		F
27.006	Change Time Limit	Change the Time Limit of a question	Type into the Edit Time Limit field	The new time limit for the question gets entered into the field		F
27.007	Correct Update	Correct Update	Click the Update button	All new dates, point values and times entered into the fields get submitted.		F

27.008	Incorrect Update	Incorrect Update	Click the Update button	Information in the fields are not properly entered and the update fails, not submitting the new data		F
27.009	Save Offline	Save Offline	Click the Save Offline button	Saves a copy of the live question set with the new changes that is not live		F

Unit 28

Account Management - Student

Assume: A Student wishes to change their password, and clicks the save button.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	28.001	Account Management Page loads	Correct page loads	N/A	Account Management Page loads and is appropriately displayed		
P	28.002	Valid Old Password	The user must input their current password correctly	Input old password	Old password is correct and accepted		
P	28.003	Invalid Old Password	The user inputs their current password incorrectly	Input old password	Old password is incorrect, the page is reloaded and appropriate error messages are displayed		
P	28.004	Valid New Password	The user inputs a valid new password	Input new password	New password is valid and accepted		
P	28.005	Invalid New Password	The user inputs an invalid new password	Input new password	New password is invalid, the page is reloaded and appropriate error messages are displayed		
P	28.006	Valid Password Confirmation	The user inputs the new password again correctly	Re-enter new password	The passwords match and accepted		

P	28.007	Invalid Password Confirmation	The user fails to input the new password in correctly	Re-enter new password	The passwords do not match, the page is reloaded and appropriate error messages are displayed		
P	28.008	Cancel	The user cancels the action	"Cancel and Return to Homepage" button is clicked	The proper homepage is loaded correctly		

Unit 29

Account Management - Instructor

Assume: An Instructor wishes to change their password, and clicks the save button.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	29.001	Account Management Page loads	Correct page loads	N/A	Account Management Page loads and is appropriately displayed		
P	29.002	Valid Old Password	The user must input their current password correctly	Input old password	Old password is correct and accepted		
P	29.003	Invalid Old Password	The user inputs their current password incorrectly	Input old password	Old password is incorrect, the page is reloaded and appropriate error messages are displayed		
P	29.004	Valid New Password	The user inputs a valid new password	Input new password	New password is valid and accepted		
P	29.005	Invalid New Password	The user inputs an invalid new password	Input new password	New password is invalid, the page is reloaded and appropriate error messages are displayed		
P	29.006	Valid Password Conformation	The user inputs the new password again correctly	Re-enter new password	The passwords match and accepted		

P	29.007	Invalid Password Confirmation	The user fails to input the new password in correctly	Re-enter new password	The passwords do not match, the page is reloaded and appropriate error messages are displayed		
P	29.008	Cancel	The user cancels the action	"Cancel and Return to Homepage" button is clicked	The proper homepage is loaded correctly		

Unit 30

Account Management – Program Administrator

Assume: A Program Administrator wishes to change their password, and clicks the save button.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	30.001	Account Management Page loads	Correct page loads	N/A	Account Management Page loads and is appropriately displayed		
P	30.002	Valid Old Password	The user must input their current password correctly	Input old password	Old password is correct and accepted		
P	30.003	Invalid Old Password	The user inputs their current password incorrectly	Input old password	Old password is incorrect, the page is reloaded and appropriate error messages are displayed		
P	30.004	Valid New Password	The user inputs a valid new password	Input new password	New password is valid and accepted		
P	30.005	Invalid New Password	The user inputs an invalid new password	Input new password	New password is invalid, the page is reloaded and appropriate error messages are displayed		
P	30.006	Valid Password Conformation	The user inputs the new password again correctly	Re-enter new password	The passwords match and accepted		

P	30.007	Invalid Password Confirmation	The user fails to input the new password in correctly	Re-enter new password	The passwords do not match, the page is reloaded and appropriate error messages are displayed		
P	30.008	Cancel	The user cancels the action	"Cancel and Return to Homepage" button is clicked	The proper homepage is loaded correctly		

Unit 31

Account Management – System Administrator

Assume: A System Administrator wishes to change another user's password, and clicks the save button.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	31.001	Account Management Page loads	Correct page loads	N/A	Account Management Page loads and is appropriately displayed		
P	31.002	Valid New Password	The user inputs a valid new password	Input new password	New password is valid and accepted		
P	31.003	Invalid New Password	The user inputs an invalid new password	Input new password	New password is invalid, the page is reloaded and appropriate error messages are displayed		
P	31.004	Valid Password Confirmation	The user inputs the new password again correctly	Re-enter new password	The passwords match and accepted		
P	31.005	Invalid Password Confirmation	The user fails to input the new password in correctly	Re-enter new password	The passwords do not match, the page is reloaded and appropriate error messages are displayed		
P	31.006	Select User	The System Administrator selects a user to make changes to	Username is selected	The changes affect the selected user		Users are selected from a drop-down menu

F	31.007	Delete	The System Administrator wishes to delete the selected user	"Delete Selected User" button is clicked	The user is removed from the system, however, records are preserved		
F	31.008	Cancel	The user cancels the action	"Cancel and Return to Homepage" button is clicked	The proper homepage is loaded correctly		

Unit 32

Course Home Page - Student

Number	Test Case Name	Description	Input	Expected Result	Actual Result Comments	Test Result
32.001	Correct Home Screen loads	Correct Home Screen loads	N/A	Home Screen loads, all components are displayed including the Instructor color		
32.002	Incorrect Home Screen loads	Incorrect Home Screen loads	N/A	Home Screen loads, too little or too many components are displayed or the color is wrong		
32.003	Posts work correctly	Posts work correctly	Click on a Post	The chosen Post is viewed or downloaded		
32.004	Posts work incorrectly	Posts work incorrectly	Click on a Post	The chosen Post is not displayed or can not be downloaded		
32.005	Clicks a course link	Clicks a course link	Click on a course link	The course home screen opens		

Units 33

Instructor and Admin Course
Home Page

Note: Assume a user has successfully logged in.

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	33.001	Course Home Page loads	Correct page loads	N/A	Course Home Page loads and is appropriately displayed		
P	33.002	Home button clicked	A User wishes to go to the Home Page	User clicks the "Home" link	User Home Page is loads and is appropriately displayed		
F	33.003	Gradebook button clicked	A User wishes to view the Gradebook	User clicks the "Gradebok" link	User Gradebook is correctly reloaded		
F	33.004	Assignment button is clicked	A User wishes to view the page of a particular current course	User clicks a current course	Correct page is loaded for the given course		
P	33.005	Logout button is clicked	A User wishes to logout	User clicks the logout button	User is logged out and redirected and to login page		

Unit 34

Pool Management – Program Admin

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	34.001	Program Administrator page loads correctly	Correct page loads	N/A	Program Administrator Pool Management page loads and is appropriately displayed		
P	34.002	Global Pool tab is clicked	The user wishes to view questions/question sets in the global pool	Click Global Pool tab	The user views questions/ question sets in the global pool		
P	34.003	Course Pool tab is clicked	The user wishes to view questions/question sets in the course pool	Click Course Pool tab	The user views questions/ question sets in the global pool		
F	34.004	Edit button	User wishes to edit a question/question set	Edit button clicked	The user is taken to the appropriate edit page		
P	34.005	Remove button	User wishes to remove a question/question set	Remove button clicked	The appropriate question/question set is removed from the correct pool		
= Summary of Tests for This Unit							

Unit 35

System Administrator Pool Management

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	35.001	System Administrator Pool Management page loads	Correct page loads	N/A	System Administrator Pool Management page loads and is appropriately displayed		
P	35.002	Global Pool tab is clicked	The user wishes to view questions/question sets in the global pool	Click Global Pool tab	The user views questions/ question sets in the global pool		
F	35.003	Edit button	User wishes to edit a question/question set	Edit button clicked	The user is taken to the appropriate edit page		
P	35.004	Remove button	User wishes to remove a question/question set	Remove button clicked	The appropriate question/question set is removed from the correct pool		
= Summary of Tests for This Unit							

Unit 36

Student Question Compile and Run

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
P	36.001	Solution Submission page loads correctly	Correct page loads	N/A	Solution Submission page loads and is appropriately displayed		
F	36.002	Save code on submission	Verify test is saved in the database	Code submission	Code submission saved in the database		
P	36.003	Student enters valid code	Validate text for legal characters	Code submission	No illegal characters		
F	36.004	Student enters invalid code	Validate text for legal characters	Code Submission	Proper error message displayed		
P	36.005	Student enters code that compiles	Compile submission using Java 1.6 Compiler	Code submission	No compilation errors		
F	36.006	Student enters code that does not compile	Compile submission using Java 1.6 Compiler	Code submission	Proper compilation errors displayed		
P	36.007	Student enters correct code	Run test cases through submission code	Code submission & Question Test Cases	Correct test case output is returned by code submission, all cases pass		
P	36.008	Student enters incorrect code	Run test cases through submission code	Code submission & Question Test Cases	The student is notified as to whether or not specific test cases were passed or not		
= Summary of Tests for This Unit							

Unit 37

Student Save Question Pop-up

Assume: A student has just saved a question.

Test Case

Pass/Fail	Number		Description	Action Needed	Expected Result	Observed Result	Comments
		Step					
	37.001	Student Save Question Pop-up page loads	Correct page loads	N/A	Student Save Question Pop-up page loads and is appropriately displayed		No longer used
	37.002	Go back to question	User wishes to return to the question that was just saved	Click "Go Back to Question" button	The Question Answer screen loads correctly		No longer used
	37.003	Return to homepage	User wishes to return to their homepage	Click "Return to Homepage" button	The proper homepage loads correctly		No longer used

Unit 38

Created Course Pop-up

Assume: The System Administrator has just created a course.

Test Case

Pass/Fail	Number		Description	Action Needed	Expected Result	Observed Result	Comments
		Step					
	38.001	Created Course Pop-up page loads	Correct page loads	N/A	Created Course Pop-up page loads and is appropriately displayed		No longer used
	38.002	Create another course	System Administrator wishes to create another course	Click "Create Another Course" button	The Course Creation screen loads correctly		No longer used
	38.003	Return to homepage	User wishes to return to their homepage	Click "Return to Homepage" button	The proper homepage loads correctly		No longer used

Unit 39

Approval for Global Pool Request

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
F	39.001	Approval Page loads	Correct page loads	N/A	Approval Page loads and is appropriately displayed		
F	39.002	Clicks to Approve Requests	A Admin wishes to go to the View Request	Admin clicks "Global Pool Requests"	Requests are loaded and is appropriately displayed		
F	39.003	Approval Button is clicked	Admin wishes to approve the question	Admin clicks the "Approve" button	Question is approved and moved in global pool		
F	39.004	Deny button is clicked	Admin wishes to deny a question	Admin clicks the "Deny" button	Question is not put into pool and instructor is sent notice		
F	39.005	Logout button is clicked	An Admin wishes to logout	Admin clicks the logout button	Admin is logged out and redirected and to login page		

Unit 40

Approval for Course Pool Requests

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
F	40.001	Approval Page loads	Correct page loads	N/A	Approval Page loads and is appropriately displayed		
F	40.002	Clicks to Approve Requests	A Admin wishes to go to the View Request	Admin clicks "Pool Requests"	Requests are loaded and is appropriately displayed		
F	40.003	Approval Button is clicked	Admin wishes to approve the question	Admin clicks the "Approve" button	Question is approved and moved in course pool		
F	40.004	Deny button is clicked	Admin wishes to deny a question	Admin clicks the "Deny" button	Question is not put into pool and instructor is sent notice		
F	40.005	Logout button is clicked	An Admin wishes to logout	Admin clicks the logout button	Admin is logged out and redirected and to login page		

Unit 41

Create User Account – Program Administrator

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	41.001	Account Creation page loads	Correct page loads	N/A	Account Creation page loads and is appropriately displayed		
P	41.002	Enter accepted first name	System Administrator enters first name with no illegal characters	Input first name	No illegal characters, the name is accepted		
P	41.003	Enter unaccepted first name	System Administrator enters first name with illegal characters	Input first name	Page reloaded with proper error message displayed		
P	41.004	Enter accepted last name	System Administrator enters last name with no illegal characters	Input last name	No illegal characters, the name is accepted		

Test Case

Pass/Fail	Number	Step	Description	Action Needed	Expected Result	Observed Result	Comments
P	42.001	Course Creation page	Correct page loads	N/A	Course Creation page loads and is appropriately displayed		
P	42.002	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
P	42.003	Course Number selection	Course Number is selected	Course Number is selected from a drop-down menu	Course Number is accepted		
P	42.004	Section Number selection	Course Section is selected	Course Section is selected from a drop-down menu	Section Number is accepted		
P	42.005	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		
P	42.006	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							

Section 4: Integration and Regression Tests

4.1 Explanation and Integrated Units

Generation Java is being created on the foundation of already produced modules, the integration and regression tests conducted for this project will consist mostly of user created instances.

In the event that a unit does not pass the following tests, that unit will be fixed, and then that unit along with all related units will be re-evaluated for accuracy. In the event that one unit passes and the other does not pass, both units will need to be evaluated in order to determine where and why the error occurred. In that event, depending on the circumstances in which the error occurred, all affected units may need to be retested.

Unit Number	Linked Units
1	2, 4, 6, 7, 8, 10
2	2
3	32
4	33, 39
5	33, 40
6	33
7	9
8	3
9	4, 10
10	9
11	24, 33
12	36, 37
13	32
14	33
15	33
16	16
17	15, 38
18	19, 20, 21
19	18, 20, 21
20	18, 19, 21
21	18, 19, 20

22	23, 25
23	23
24	4, 5, 6, 11
25	4, 5, 6, 17
26	18, 34, 35
27	26, 35
28	32
29	6
30	5
31	4
32	12
33	12
34	6
35	6
36	12
37	12
38	4, 17
39	4
40	5
41	8
42	16, 39