Test Plan

Tower of Babel Learning Management System

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NYUAD

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Revision and Signoff Sheet

Document History

Version	Date	Author	Description of Change
1	12/10/2014	Chunxiao Wang	Draft

Approvers List

Name	Role	Approver / Reviewer	Approval / Review Date

Reference Documents

Version	Date	Document Name
1.0	11/22/2019	Software Requirements Specification for Tower of Babel Learning Management System

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1. INTRODUCTION

1.1. Purpose

This test plan describes the testing approach and overall framework that will drive the testing of three main functionalities/modules of the Tower of Babel Learning Management System: Register, Log In, and Enroll in Class.

1.2. Project Overview

Tower of Babel Learning Management System is a useful tool designed to support the management and execution of regular and non-regular Language Workshops and programs of the SIG, Tower of Babel, at New York University Abu Dhabi. The goal is to increase the efficiency of the recruitment, enrollment, and course delivery process, to strengthen communication, and to enhance public influence of Tower of Babel.

General users can use the system to browse public announcements and updates. All registered users can use the system to upload posts with multimedia to the community forum. Students can use the system to search for, enroll in and drop classes. Students can also use it to provide anonymous feedback. Instructors can use the system to take attendance, distribute course materials, issue grades and feedbacks, set up class schedule, send notifications and send requests to administrators. Administrators can use this system to create new classes, post and assign priorities to forum posts, and assign students based on enrollment information.

1.3. Audience

- Project team members perform tasks specified in this document and provide input and recommendations on this document.
- Project Manager Plans for the testing activities in the overall project schedule, reviews the document, tracks the performance of the test according to the task herein specified, approves the document and is accountable for the results.
- The stakeholders' representatives may take part in the validation test to ensure the business is aligned with the results of the test.
- Technical Team ensures that the test plan and deliverables are in line with the design, provides the environment for testing and follows the procedures related to the fixes of defects.

2. TEST STRATEGY

2.1. Test Objectives

The objective of the test is to verify that the Register, Log In, and Enroll in Class functionalities of the Tower of Babel Learning Management System all work according to the specifications.

2.2. Test Assumptions

General

- Exploratory Testing would be carried out once the build is ready for testing
- Performance testing is not considered for this estimation.
- All the defects would come along with a snapshot JPEG format
- The Test Team assumes all necessary inputs required during Test design and execution will be supported by Development/BUSINESS ANALYSTs appropriately.
- Test case design activities will be performed by Quality Assurance Group
- Test environment and preparation activities will be owned by Technical Team
- Technical team will provide Defect fix plans based on the Defect meetings during each development cycle. The same will be informed to Test team prior to start of Defect fix cycles.
- Project Manager will review and sign-off all test deliverables
- The project will provide test planning, test design and test execution support
- Project team has the knowledge and experience necessary, or has received adequate training in the system, the project and the testing processes.
- There is no environment downtime during test due to outages or defect fixes.
- The system will be treated as a black box; if the information shows correctly online and, in the reports, it will be assumed that the database is working properly.

Validation Testing

- During validation testing, the testing team will use preloaded data which is available on the system at the time of execution.

2.3. Test Principles

- Testing will be focused on meeting the business objectives, cost efficiency, and quality.
- There will be common, consistent procedures for all teams supporting testing activities.
- Testing processes will be well defined, yet flexible, with the ability to change as needed.
- Testing activities will build upon previous stages to avoid redundancy or duplication of effort.
- Testing environment and data will emulate a production environment as much as possible.
- Testing will be a repeatable, quantifiable, and measurable activity.

2.4. Data Approach

- In validation testing, the Tower of Babel Learning Management System will contain pre-loaded test data which is used for testing activities.

2.5. Scope and Levels of Testing

2.5.1. Validation Test

PURPOSE: Validation testing will be performed to check the functions of the application. The validation test is carried out by deeding the input and validating the output from the application.

SCOPE: The validation test will be performed on the Register, Log In, and Enroll in Class modules of the Tower of Babel Learning Management System.

TESTERS: Testing team.

METHOD: The test will be based on black box testing methods and will be performed according to validation scripts.

TEST ACCEPTANCE CRITERIA

1. Approved software requirement specification document and use case documents must be available prior to start of test design phase.
2. Test cases must be approved and signed-off prior to start of test execution.
3. Previous testing/development status with pass status and results must be shared with testing team to avoid duplicate defects.
4. Test environment with application must be installed, configured and ready-to-use state.

TEST DELIVERABLES

No.	Deliverable Name	Author	Reviewer
1.	Test Plan	Test Lead	Project Manager
2.	Validation Test Cases	Test Team	Project Manager
3.	Defects Log	Test Team	Test Lead/Programming Lead
4.	Daily/weekly status report	Test Team/ Test Lead	Test Lead/ Project Manager
5.	Test Closure report	Test Lead	Project Manager

MILESTONE LIST

Milestone	Start Date	End Date	Person in Charge
A) Gather System Information	11/22/19	11/25/19	Yiming
B) Test Planning	12/08/19	12/09/19	Chunxiao
B1) Design Test Plan	12/08/19	12/08/19	Chunxiao
B2) Determine Metrics and Criteria	12/08/19	12/08/19	Chunxiao
B3) Review/Approve Plan	12/09/19	12/09/19	Yiming & Ellen
C) Test Case Design	12/09/19	12/09/19	Chunxiao
C1) Design Validation Test Cases	12/08/19	12/08/19	Chunxiao
C2) Review/Approve Test Cases	12/09/19	12/09/19	Yiming & Ellen
D) Test Development	12/10/19	12/10/19	Yiming & Ellen
D1) Develop Test Scripts	12/10/19	12/10/19	Yiming & Ellen

D2) Review/Approve Test Scripts	12/10/19	12/10/19	Chunxiao
E) Test Execution	12/11/19	12/11/19	Yiming
E1) Setup Environment	12/11/19	12/11/19	Hongyi
E2) Execution	12/11/19	12/11/19	Ellen
E3) Evaluate, Log, and Solve Defects	12/11/19	12/11/19	Yiming
F) Summarize Report	12/11/19	12/11/19	Hongyi
F1) Prepare Final Test Closure Report	12/11/19	12/11/19	Hongyi
F2) Review/Approve Test Closure Report	12/11/19	12/11/19	Chunxiao

The milestone list is tentative and may change due to below reasons:

a) Any issues in the System environment readiness
b) Any change in scope/addition in scope
c) Any other dependency that impacts efforts and timelines

2.6. Test Effort Estimate

QA Activity	Estimated effort in hours	Assigned to
A) Gather System Information	3	Yiming
B) Test Planning	5	Chunxiao
B1) Design Test Plan	3	Chunxiao
B2) Determine Metrics and Criteria	1	Chunxiao
B3) Review/Approve Plan	1	Yiming & Ellen
C) Test Case Design	5	Chunxiao
C1) Design Validation Test Cases	4	Chunxiao
C2) Review/Approve Test Cases	1	Yiming & Ellen
D) Test Development	5	Yiming & Ellen
D1) Develop Test Scripts	4	Yiming & Ellen
D2) Review/Approve Test Scripts	1	Chunxiao
E) Test Execution	2	Yiming
E1) Setup Environment	1	Hongyi
E2) Execution	0.5	Ellen
E3) Evaluate, Log, and Solve Defects	0.5	Yiming
F) Summarize Report	2	Hongyi
F1) Prepare Final Test Closure Report	1	Hongyi
F2) Review/Approve Test Closure Report	1	Chunxiao

3. EXECUTION STRATEGY

3.1. Entry and Exit Criteria

Entry Criteria	Test Team	Technical Team	Notes
100% Test Planning activities are completed			
100% Test Case designing completed			

100% Test scripts developed and reviewed			
100% of pre-conditions for the respective test cases are met			
Testing environment is set up successfully			

Exit Criteria	Test Team	Technical Team	Notes
100% Test Scripts executed			
95% pass rate of Test Scripts			
No open Critical and High severity defects			
95% of Medium severity defects have been closed			
All remaining defects are either cancelled or documented as Change Requests for a future release			
All expected and actual results are captured and documented with the test script			
All test metrics collected based			
All defects logged			
Test Closure Memo completed and signed off			
Test environment cleanup completed and a new back up of the environment initiated			

3.2. Test Cycles

There will be two cycles for validation testing. Each cycle will execute all the scripts. The objective of the first cycle is to identify any blocking, critical defects, and most of the high defects. It is expected to use some work-around in order to get to all the scripts. The objective of the second cycle is to identify remaining high and medium defects, remove the work-around from the first cycle, correct gaps in the scripts and obtain performance results.

3.3. Defect Categorization

Severity	Impact
1 (Critical)	▪ This bug is critical enough to crash the system, cause file corruption, or cause potential data loss ▪ It causes an abnormal return to the operating system (crash or a system failure message appears). ▪ It causes the application to hang and requires re-booting the system.
2 (High)	▪ It causes a lack of vital program functionality with workaround.

3 (Medium)	▪ This Bug will degrade the quality of the System. However there is an intelligent workaround for achieving the desired functionality - for example through another screen. ▪ This bug prevents other areas of the product from being tested. However other areas can be independently tested.
4 (Low)	▪ There is an insufficient or unclear error message, which has minimum impact on product use.
5(Cosmetic)	▪ There is an insufficient or unclear error message that has no impact on product use.

3.4. Test Metrics

Report	Description	Frequency
Test preparation & Execution Status	To report on % complete, % Pass, % Fail Defects severity wise Status – Open, closed, any other Status	Hourly
Daily Execution Status	To report on Pass, Fail, Total defects, highlight Showstopper/ Critical defects	Daily

4. TEST MANAGEMENT PROCESS

4.1. Test Design Process

- The tester will understand each requirement and prepare corresponding test case to ensure all requirements are covered.
- Each Test case will be mapped to Use cases to Requirements as part of Traceability matrix.
- Each of the Test cases will undergo review by the technical team. The testers will rework on the review defects and finally obtain approval and sign-off.
- During the preparation phase, tester will use the prototype, use case and functional specification to write step by step test cases.

4.2. Test Execution Process

- Once all Test cases are approved and the test environment is ready for testing, the Test Team will assign test cases to each tester within the team.
- Each tester performs step by step execution and updates the execution status and logs.

- If any failures, defect will be logged according to severity guidelines.
- Daily Test execution status as well as Defect status will be reported to all stakeholders.
- Testing team will participate in defect triage meetings in order to ensure all test cases are executed with either pass/fail category.
- If there are any defects that are not part of steps but could be outside the test steps, such defects need to be captured and mapped against the test case level or at the specific step that issue was encountered after confirming with Test Lead.
- This process is repeated until all test cases are executed fully with Pass/Fail status.

4.3. Test Risks and Mitigation Factors

Risk	Probability	Impact	Mitigation Plan
Schedule Delay	High	High	The testing team can control the preparation tasks (in advance) and the early communication with involved parties.
Lack of Resources	Medium	High	Estimate necessary resources during the early stage of design. Allow deviations from the estimation of the original design.
Late discovery of defects/ Unable to fix defect in time	Medium	High	Create defect management plan to ensure prompt communication and fixing of issues.
Changes in Scope	Medium	Medium	Scope is well defined but allow changes in the functionality that are not yet finalized or keep on changing.

4.4. Role Expectations

The following list defines in general terms the expectations related to the roles directly involved in the management, planning or execution of the test for the project.

	Roles	Name	Contact Info
1.	Project Manager	Yiming	
2.	Test Lead	Chunxiao	
4.	Development Lead	Ellen	
5.	Testing Team	Yiming	
6.	Development Team	Hongyi	
7.	Technical Lead	Ellen	

4.4.1. Project Management

The Project Manager reviews the content of the Test Plan, Test Strategy and Test Estimates as well as signs off on it.

4.4.2. Test Planning

The Test Lead will:

- Ensure entrance criteria are used as input before starting the execution.
- Develop test plan and the guidelines to create test conditions, test cases, expected results and execution scripts.
- Provide guidelines on how to manage defects.
- Attend status meetings in person or via the conference call line.
- Communicate to the test team any changes that need to be made to the test deliverables or application and when they will be completed.
- Facilitate communication between the Test Team and other involved personnel/teams.

The Test Team will:

- Develop test conditions, test cases, expected results, and execution scripts.
- Perform execution and validation.
- Identify, document and prioritize defects according to the guidance provided by the Test lead.
- Re-test after software modifications have been made according to the schedule.
- Prepare testing metrics and provide regular status.

4.4.3. Development

The Development Team will:

- Review testing deliverables (test plan, cases, scripts, expected results, etc.) and provide timely feedback.
- Assist in the validation of results (if requested).
- Support the development and testing processes being used to support the project.
- Certify correct components have been delivered to the test environment at the points specified in the testing schedule.
- Keep project team and leadership informed of potential software delivery date slips based on the current schedule.
- Implement fixes to defects according to schedule.

5. TEST ENVIRONMENT

The Tower of Babel Learning Management System will be hosted on web-based server. A MacOS environment with Google Chrome 78.0 and later as well as Safari 13.0.3 and later should be available to each tester.

6. APPROVALS

The Names and Titles of all persons who must approve this plan:

Signature:	
Name:	
Role:	
Date:	

Signature:	
Name:	
Role:	
Date:	

References: Test Plan Template -> https://www.softwaretestinghelp.com/how-to-write- test-plan-document-software-testing-training-day3/