

**GOMC Capstone**

**Product Testing Plan**

Version 0.1

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**REVISION HISTORY**

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| **Version**  **#** | **Implemented**  **By** | **Revision**  **Date** | **Scope of Change** |
| 0.1 | Muamer B | 12/4/17 | Created cover page, table of contents, each section, subection, subsubsection, every test case table with information |
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**1. Introduction**

**1.1 Purpose**

The purpose of the GOMC - Capstone Product Testing Plan is to provide the required information to successfully execute the defined test cases. This is to ensure that the GOMC application suite meets the requirements detailed in the GOMC Requirement Specification document.

**1.2 References**

The test cases listed in this document have a one to one relationship with a use case which can be found in the GOMC Product Design Specification document. The following use cases have been described in a detailed and standardized format.

**2. Function Testing**

**2.1 Approach**

Individuals testing the system will follow specific instructions detailed within this document. With this methodology, the state of the system can be controlled throughout each test case.

**2.2 Pass/Fail Criteria**

To be considered successful, all assumed results must be realized as detailed within each test case. If either any unexpected results occur or any expected results do not occur, the test case is considered a failure and must be reviewed.

**2.3 Entry/Exit Criteria**

The Entry Criteria of functional testing is following the completion of Prototype 2. The Exit Criteria of functional testing is the completion of all stated test cases.

**2.4 Suspension/Resumption Criteria**

Testing will be suspended when a test case fails or other factors prevent the successful completion of test cases. Testing will resume when these preventative factors are identified and resolved.

**2.5 Risks/Issues**

Being that testing will be run on a non-production system, it is advised that database initialization scripts and database population scripts be run in order to generate and control the state of the system. This implies risk in that if a database script is not constructed properly it may cause erroneous test case results.

**2.6 Items to be tested**

**2.6.1 Risks/Issues**

**2.6.1.1 Config Form**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 1 | Config Form – Correct Fields | Checking to see after correct fields, is the user able to create and receive an XML file |
| TC - 2 | Config Form – Empty Fields | Checking to see if an error message is shown when input fields are left empty |
| TC - 3 | Config Form – Incorrect Field | Making sure an error message is shown when an incorrect field is chosen |

**2.6.1.2 Login System**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 4 | Login System – Check for Fields | Checking if page contains the two input fields |
| TC - 5 | Login System – Check for Login Button | Checking if page contains login button |
| TC - 6 | Login System – Check for Empty Field Validation | Checking to see if login will work even when nothing is inputted into the input fields |
| TC - 7 | Login System – Valid Email & Password | Checking to see if login will work with the correct email and password inputted |
| TC - 8 | Login System – Entering Email Only | Checking to see if login will work if only the correct email is inputted without password |
| TC - 9 | Login System – Entering Password Only | Checking to see if login will work if only the correct password is inputted without email |
| TC - 10 | Login System – Invalid Email | Checking to see if login will work if an incorrect email is inputted in input field |
| TC - 11 | Login System – Invalid Password | Checking to see if login will work if an incorrect password is inputted in input field |

**2.6.1.3 Download Page**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 12 | Download Page – GitHub Link | Checking to see if the included GitHub link redirects user to correct page |
| TC - 13 | Download Page – Most Recent Version Links | Checking to see if the available download links for each download version work properly |
| TC - 14 | Download Page – Older Versions | Checking to see if the included link for older versions redirects user to correct page and includes older versions |
| TC - 15 | Download Page – Examples Set | Checking to see if the available download links for each example version work properly |
| TC - 16 | Download Page – Older Examples | Checking to see if the included link for older examples redirects user to correct page and includes older examples |

**2.6.1.4 Registration Form**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 17 | Registration Form – Normal Behavior | Making sure the registration form is functioning the way it is supposed to |
| TC - 18 | Registration Form – Check for Fields/Form | Checking to see if the registration form has the 4 different input fields as stated |
| TC - 19 | Registration Form – Invalid Name | Making sure that the "Name" field will not take numbers/special characters inputted |
| TC - 20 | Registration Form – Invalid Email | Making sure that the "Email" field will check to see if the inputted information is in email address format |
| TC - 21 | Registration Form – Missing Field | Making sure an error message is shown stating that the empty field is required |
| TC - 22 | Registration Form – Missing Captcha | Checking to see if the captcha is filled out correctly |
| TC - 23 | Registration Form – Captcha Expiration | Checking to see if the captcha expires after two minutes |

**2.6.1.5 Admin Page**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 24 | Admin Page – Access | Making sure that the admin is able to login to admin page after filling out login system input fields correctly |
| TC - 25 | Admin Page – Redirect or No Access | Makes sure that the admin is logged in before they are able to gain access to admin page and its functionalities |
| TC - 26 | Admin Page – Post Announcement | Making sure that when admin creates and clicks to post announcement, that it actually posts on the landing page |
| TC - 27 | Admin Page – Clear Announcement | Checking to see that when admin enters text in "New Announcement" field and presses "Clear" button, it clears the inputted text |
| TC - 28 | Admin Page – Announcement Link | Making sure that the new announcement is at the top of the list on the landing page |

**2.6.1.6 XML Parser**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 29 | GOMC App Input – Invalid | Making sure that an error message is shown stating that the XML input file is invalid |
| TC - 30 | GOMC App Input – Valid | Making sure that a success message is shown once the simulation is completed |

**3. Integration Testing**

**3.1 Approach**

Prior to executing the following integration tests, the tester will initialize the database and run specific database scripts to provide a controlled environment with which to test.

**3.2 Pass/Fail Criteria**

For a test case to receive a passable status, all tests must be executed as defined within the test case specification document and all expected results must be observed. Furthermore, if undocumented or unspecified results occur, the test case shall not be considered passable. If a test does not pass the initial test, it must be then flagged for review.

**3.3 Entry/Exit Criteria**

The entry criteria of Integration Testing is the completion of Non-functional Testing. The Exit Criteria of Integration Testing is the completion of all stated integration test cases.

**3.4 Suspension/Resumption Criteria**

Tests must be suspended in the case where a test fails, which does not allow testing to continue. Testing will be resumed when solution to the cause of the test failure can be identified and implemented, whether it be updating the test or updating the system software.

**3.5 Risks/Issues**

Being that testing will be run on a non-production system, it is advised that database initialization scripts and database population scripts be run in order to generate and control the state of the system. This implies risk in that if a database script is not constructed properly it may cause erroneous test case results.

**3.6 Items To Be Tested**

**3.6.1 LaTeX**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 31 | LaTeX Upload – No File | Making sure an error message appears when admin tries to upload no file, only clicks "Upload" |
| TC - 32 | LaTeX Upload – Text File | Making sure that the selected file is a valid LaTeX file, error message is shown if it's not |
| TC - 33 | LaTeX Upload – Valid | Making sure a success message is shown after the LaTeX has been successfully uploaded |

**4. System Testing**

**4.1 Approach**

System testing will perform a test of the functionality of the system, by testing it with specific parameters. Prior to initializing system testing, the tester will execute a database script to initialize the database, all other required database scripts are detailed within the test case.

**4.2 Pass/Fail Criteria**

For a test case to receive a passable status, all tests must be executed as defined within the test case specification document and all expected results must be observed. Furthermore, if undocumented or unspecified results occur, the test case shall not be considered passable. If a test does not pass the initial test, it must be then flagged for review.

**4.3 Entry/Exit Criteria**

The entry criteria of the following system testing plan is following integration testing, with all test cases receiving the pass status. The exit criteria of the following system testing plan is all tests having been executed.

**4.4 Suspension/Resumption Criteria**

Tests must be suspended in the case where a test fails, which does not allow testing to continue. Testing will be resumed when solution to the cause of the test failure can be identified and implemented, whether it be updating the test or updating the system software.

**4.5 Risks/Issues**

The following test cases come with no risks and issues.

**4.6 Execution Path**

**4.6.1 Web-hooks**

|  |  |  |
| --- | --- | --- |
| Test Case ID | Title | Description |
| TC - 34 | GitHub Web-Hooks Push | Checking to see if an item (Ex: Tutorial Overview to Tutorial Overview - Test) is changed and committed, that it is shown as the updated item |
| TC - 35 | GitHub Web-Hooks Push - Invalid LaTeX | Making sure that the "Latex Uploads" table stays the same when an invalid LaTeX file is uploaded |

**5. Client Acceptance Testing**

**5.1 Approach**

Client acceptance testing will be performed by the client, or team selected by the client. The system will not require any database scripts for controlled testing.

**5.2 Pass/Fail Criteria**

For the system to pass client acceptance testing, the client must agree that each requirement detailed within the GOMC Requirements Specification document has been integrated into the system.

**5.3 Entry/Exit Criteria**

The entry criteria for client acceptance testing is upon completion of system testing. The exit criteria for client acceptance testing is the written acceptance of the client.

**5.4 Suspension/Resumption Criteria**

Client acceptance testing will be suspended if there is a requirement that the client can identify that is not satisfied by the system. To resume client acceptance testing, a solution the issue that originated the suspension has been identified and implemented.

**5.5 Risks/Issues**

There are no risks or issues for client acceptance testing.

**5.6 Items To Be Tested**

The system will be tested in its entirety.