Digital BlackSmiths: Thutong LMS

Testing Policy Document

Group Members:

Fiwa Lekhulani
Daniel Rocha
Lebogang Ntlatleng
Lesego Mabe
Tlou Lebelo

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1 Definition

Purpose
Testing serves as the basic measure of progress within the software development process. Therefore without testing software throughout the development cycle there is no form of progress which proves that developers have made an attempt to solving the problems specified by the customer, user or encountered during the process.
Also in situations where products need to ensure compliance with regulatory requirements, software testing can safeguard the organization from legal liabilities by verifying compliance (i.e.) Such as protecting user data.

Goal
Our main goal in testing is ensuring that Thutong LMS system software fulfils its requirements as stipulated in the systems requirement documentation. The requirements to be meet include both functional and non-functional requirements which might way down the performance, security or any other system qualities.

2 Testing Process

2.1 Unit Test

Unit test are performed on the following test cases:

- Registration and Login

- Lesson Completion

- Quizzing and grading

- Notification sending/receiving

- Virtual classroom (booking, connectivity and speed)

Unit tests are performed every ***

2.2 Integration Test

Integration points identified and tested:

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Integration tests are performed every ***

2.3   Performance Test

The following are points were chosen to test for speed and effectiveness:

- Moodle overall performance

- Video, audio and whiteboard transmission rate

Performance tests are performed after each integration test

3   Tools

This section will discuss the tools and frameworks used to test the system; it will also describe how to configure them and reasons for the specified tools.

3.1   Moodle Benchmark

- this tool is a Moodle plugin that performs various performance factors of the system such as Server, Processor, Hard drive, Database and Loading page speed

- the tool is downloaded from the Moodle website and is added as plugin https://moodle.org/plugins/report_benchmark

- The tool simply requires one to go to Site_Administration-⟩Reports-⟩ Benchmark" and select Run Test

3.2   Mocha and Chai JS

- Mocha is a feature-rich JavaScript test framework running on Node.js; Mocha tests run serially, allowing for flexible and accurate reporting

- Chai is a BDD / TDD assertion library for node and the browser that can be paired with any javascript testing framework.
  Chai provides natural language assertions which makes it both readable and highly expressive. The callback functionality is a big reason why this pair wasa choosen as it effectively gives understandable test results

- Configuration: https://codeburst.io/javascript-unit-testing-using-mocha-and-chai-1d97d9f

3.3 PHP Unit

- PHP Unit is an advanced unit testing framework for PHP; it is best suited for Moodle as it is written in PHP predominately. It a has basic suite of unit tests for ****.

- configuration: https://docs.moodle.org/dev/PHPUnit