# **Purpose**

The purpose of Quality Assurance (QA) and Testing Plan is to ensure that the developed Education Portal meets the client’s business requirements, and training objectives as provided for in the Scope of Work (SOW). The QA plan documents the various quality assurance activities that will be implemented throughout the lifecycle of the Education Portal Implementation project. The approach ensures that during development, YM Learning (YM) QA Analysts validate product implementation against client specifications. This ensures that all the project work streams are developed per client specifications from inception through production.

# **QUALITY ASSURANCE AND TESTING APPROACH**

YM QA and Testing approach ensures that quality is built into the Learning Management System. Quality checks are conducted for each project management phase, and during product release cycle (staging, pre-production, production). Each phase of the project will have a review and approval point where the client will have the opportunity to review and approve the phase deliverable(s).

## 2.1 QA Areas:

* Development Tool
* Content
* Features
* Platforms and devices Content
* Final Product

## 2.2 Testing Process

The QA Team establishes performance measurements for:

* Functional Testing
* Non-Functional Testing

**Functional Testing**

Functional Testing ensures that the Education Portal operates according to specifications. It validates all the features and module specifications.

Unit Testing

Individual modules are tested during development to make sure they meet specification.

Integration Testing

This involves testing multiple units/interfaces together to see how they perform. This part is automated and tested by the QA analyst during development

**User Acceptance Testing**

UAT tests are conducted by ubject-matter experts on the client’s side to ensure that the courses, and learning portal meet requirements. The process tests the Education Portal against client specifications to confirm that various users can navigate the system seamlessly, and obtain expected results. UAT test cases are created for three roles; administrator, learner, and the instructor. The client assigns end users to different roles to conduct UAT. The end user acceptance testing and approval signals that the LMS can be moved into production.

A copy of the UAT test cases is attached as Appendix B. This document will be updated to align with AGA’s unique education portal.

**Non-Functional Testing**

Non-Functional testing ensures that system performance, security, and user interface are developed to meet the learners’ needs and association’s objectives. YM QA Analyst will test for:

* Vulnerability – security testing of the application and website to discover vulnerabilities and security holes.
* Compatibility - verify that the Education Portal is compatible with different browsers, operating systems, and devices as provided for in the Service Level Agreement (SLA). This test confirms that the Education Portal is readable on all platforms; smartphone devices, approved browsers and operating systems.
* Performance – goal is to make sure that the Education Portal responds well under different circumstances such as heavy load situation, internet bandwidth.

**Production Release Methodology**

Production releases are available bi-weekly on Thursday’s at 12:01 am ET and a schedule may be found here: [Client - Release Schedule 2018](https://docs.google.com/spreadsheets/d/1lMCE7FuzfAT93naITTB0Ce5o-8rb6y3_UcoiAhLSjk8/edit#gid=392810780)

YM will develop and provide changes on staging for client review. YM will test and verify changes pushed to production to the extent possible provided any required client inputs are made available. Delays in required inputs i.e. Single Sign-on accounts created in client AMS systems, will delay QA and releases.

Post YM QA, client will be informed of staging release and instructed on how to test and verify changes if applicable. Client will then confirm changes and communicate signoff to Project Manager. Client assumes responsibility for signoff and release of items to production.

YM will schedule items for release during next available release window. Signoff must be provided to YM Project Manager the Thursday before a release week by 2PM ET. Items not provided by this window will be scheduled for the next available release.

YM will move confirmed code from Staging, to Pre-Production by end of Day the Friday before release. The Pre-Production provides a snapshot of Client’s current Production environment trailing between 1-3 months. This environment provides a safe place to confirm changes as they will appear on Production. In highly custom, or risky situations, Client will be asked to review and verify in Pre-Production as well. YM will also confirm changes on Pre-Production and alert client to any issues found. In the unlikely event issues are found with Pre-Production which were not identified on staging, YM will evaluate if the issue can be fixed prior to release, or if the change should be rolled back. If the adjustment can be made in a business reasonable time frame, YM will make the changes, and inform the client of adjustments, and planned release. Final confirmation of items is due by 4pm ET the Tuesday before release.

Upon successful verification of items in Pre-Production, changes will be deployed to Production between 12:01 and 3:00 AM ET.

YM will inform client of status of release by end of day the Thursday of release.

**EDUCATION PORTAL Key Performance Indicators**

**The following indicators are made available to clients for tracking success and will be made available to the Client to evaluate efficacy.**

The load time for the portal is generally less than three seconds.

The KPIs below are collected monthly and made available to client.

* Number of unique users per
* Number of Logins
* Number of system launches
* Number of Completions
* Number of Enrollments
* Number of Certificates

Fig 1. Sample Client KPI Chart for 2016

# **PRODUCT QUALITY REVIEW**

The scope of product review spans all written content, narrated content, assessments, and business rule compliance if using YM content creation services.

Content Areas for review:

If the content is developed by YM, we will review the following:

* Audio & Transcript
* Visuals and Timing
* Interactivities

User Experience Areas for review:

* Main Menu
* Next/Back Buttons
* Compliance Mode
* Auto Forward

Technical Areas for Review

* Browsers
* Player Menu Items
* EDUCATION PORTAL Publishing
* SCORM
* Completion Tracking
* Publishing Format

Roles and Responsibilities

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Quality Responsibility** |
| Jeff DeSimone | Sr. Project Manager | PM / Quality Validation |
| Sharif Abubakr | QA Analyst | Quality Assurance |
| Adil Mukhtar | QC Analyst | System Test Lead |
| Umber Asif | QA Manager | Performance Analyst |
| Stephen German | Product Manager | QA Lead / Change Management |
| Chris Hills | Sr. Business Analyst | Defect Review / UAT |

# **APPENDIX**

## Appendix A: Quality Assurance Checklists

Table 1. QA by Project Phase

| **Phase** | **Action** | **Description** | **Owner** |
| --- | --- | --- | --- |
| **Kickoff** | Access to Training Site | Give learner and admin access to the default training site on staging only | Project Manager |
| Draft Project Plan | Prepare a high-level project plan to jumpstart the project | Project Manager |
| Stakeholders Identification | Identify Key Stakeholders and their contact information | Project Manager |
| Roles and Responsibilities Verification | Develop a RACI Matrix for the project | Project Manager |
|  |  |  |  |
| **Requirements** | Content Check-list | Ensure that client provides detailed list of their content | Project Manager |
| Content Check-list Approval | Get approval, final counts for all learning content for the Education Portal. | Project Manager |
| Requirements Specifications Document | * Collate all Education Porta specifications in a document. * Obtain written approval from the client | Project Manager |
|  |  |  |
| **Implementation** | Integration | * Make sure user can login and see the correct catalogs, dashboard, communities for their user role. * Verify that any subscription calls are being created * Verify that any credit pushes are being completed and that the information is in the AMS. | Integration SME & Project Manager |
| Configuration | * Compare configuration to specifications and verify all tabs, tab names, widgets, widget names and dashboard layout | Configuration SME & PM |
| Branding | * Verify all images, fonts, logos are being used | Branding SME & PM |
| Content | Go through packages as a learner and make sure the triggers are working correctly for completions, certificates and credits | Instructional Designer & Project Manager |
| Customizations | Validate all customizations based off specifications | SME as needed |
| Internal QA of Site | Review the site prior to a production release. Validate all user-flows, specifications etc. | Review the site prior to a production release. Validate all user-flows, specifications etc. |
| Client approval of staging | Client to review and approve staging for production release |  |
|  |  |  |  |
| **Deploy** | User-Flow walkthrough | User-flow testing on production to make sure all migrations are complete | QA Analysts |
|  |  |  |  |

These activities are performed in all APPROVED Internet Browsers and Device Types

Table 2. Release Quality Assurance Check List

| **Environment** | **QA Activity** | **Response (Y/N)** | **Comment** |
| --- | --- | --- | --- |
| **Staging** | * All slides in sequential order |  |  |
| * Forward and back buttons work |  |  |
| * Menu items are synced with appropriate slide |  |  |
| * Course renders a completion after clicking through it entirely |  |  |
| * Interactions/quiz questions have appropriate number of attempts |  |  |
| * Bookmarking (resume prompt) is set |  |  |
| * Course on-screen content loads along with the template design (mobile) |  |  |
| * Course does not hook or have loading issues |  |  |
| * All hyperlinks and buttons/triggers (anything clickable) work |  |  |
| * All downloadable items work |  |  |
| * No previous button on first slide, no next button on the final slide |  |  |
|  |  |  |
|  |  |  |  |
| **Pre-Production** | * Spelling, grammar and punctuation are checked |  |  |
| * On-screen text matches storyboard/ppt prototype |  |  |
| * Images do not have watermarks |  |  |
| * No errant punctuation marks |  |  |
| * Slide is not text heavy/dense |  |  |
| * Menu dropdown items are labeled with correct text |  |  |
| * Text alignment is consistent across all slides |  |  |
| * All trademark logos (™ and ® ) are appropriately labeled across lesson content |  |  |
| * Slides with footnotes have associated footnotes in Legal section |  |  |
|  |  |  |
|  |  |  |  |
| **Production** | * Narrated audio matches audio script |  |  |
| * Proper audio is synced to appropriate button |  |  |
| * Audio clips do not overlap |  |  |
| * Audio is not partially cut upon moving to next screen |  |  |
| Video Testing: |  |  |
| * + Video loads without any hooks or loading issues |  |  |
| * + Video audio does not overlap with slide audio |  |  |
| * + Video plays only after clicking button/video play button |  |  |
| UI Testing (UIT): |  |  |
| * Lesson renders completion in learner transcript |  |  |
| * Completion of lesson/package renders a certificate |  |  |
| * Does lesson function in multiple browsers? IE/Chrome/Firefox/Safari |  |  |
| Mobile Device Testing(MOBILE): |  |  |
| * Lesson does plays on mobile devices AND on desktop, vice-versa |  |  |
| * Does lesson function in multiple mobile devices? iOS/Android products |  |  |
|  |  |  |  |

## Appendix B: UAT Test Cases

