Quiz

Test Plan

Version 1.0

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Document Approval

If appropriate, this section contains formal sign-off for both review and approval of the test plan.

| Position | Name | Signature | Date |
| --- | --- | --- | --- |
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# Introduction

This document summarizes all testing activities related to the product Quiz.

## Goals

The goal of this test plan is to ensure optimal coverage and validation of all functional as well as non-functional requirements described in the updated document “Quiz specification”.

## Assumptions

A1: This test plan is based on the updated document “Quiz specification” ver 1.0. Any discrepancies registered during the testing phase between this specification and the real software will be considered as software defects.

A2: Requirements missing in the specification will be discussed with Client team and if necessary added before completing this Test Plan. Requirements not included in the updated Specification by then will be considered out of scope of this Test Plan. The final iteration (update from QA team and review from Client team) should be done after the Quiz product specification “freezing”.

## Risks and Assets

The Client team set a specific requirement about the testing methodology – all testing activities (test case design, execution and reporting) should be followed strictly the development of the separate parts or components of the Quiz product (for example, internalization part, leaderboard component, etc).

Using this methodology there can be QA resource shortage – the work of the QA engineer may be not so efficient because he must switch daily tasks between the tests execution and reporting for the existing (fully implemented) parts or components and at the same time test case design for new (not fully implemented) parts or components.

## References

The Test Plan has derived its content from the updated document “Quiz specification” ver 0.9.

# Features to Be Tested

The following features and functions of the product Quiz, described in the updated document “Quiz Specification” should be tested:

* Administration ( site management, global reports);
* Communications management;
* Communications Assets management (players, buttons, pages, functionalities,etc.);
* Actors permissions (global, manager, editor);
* Communications Assets management (images);
* Basic Reporting (communication level, communication assets level);

# Features Not To Be Tested

The following features and functions of the product Quiz, described in the updated document “Quiz Specification” should not be tested:

* Extended Reporting (communication level, communication asset level, global, audit) – it will include in the next release;

# Approach

The software testing often occurs in two phases during the development of an item: development testing and system testing phases. The System testing occurs after the item has been released by the developer from development testing. In this document there are using these two terms/definitions.

The required types of testing for the product Quiz, identified at the moment are:

* Volume Testing
* Cross Browser Testing;
* Security Testing;
* Installation Testing/Documentation;
* User access Testing;
* End to End integration testing;
* Specification adherence;
* Functional testing;

All these types of testing are prioritized, correspond to the Client team requirements.

All requirements from the document “ QA Testing Outline” are included in the appropriated sections in this document.

## Volume Testing

### Objectives

The purpose of this task is to verify the correctness of the implementation of the client requirements (maximal limitations) for the performance (load/volume) testing in the product Quiz.

### Processing

The process for the volume testing of the product Quiz includes the following subprocesses:

* Technology research for possible volume capabilities on the current product server limitations:
* Technology research for the appropriated performance automated testing tools;
* Volume testing execution – it should deliver results for:
  + Maximum number of concurrent live audience viewers (per product server);
  + Maximum number of concurrent on-demand audience viewers (per product server);
  + Maximum number of active encoders the system can support (per product server);

Initially in this volume testing the QA team will watch closely on the gross parameters (response time, transactions, time of the first byte (TTFB), time of the last byte (TTLB), etc.). The QA team may prepare the appropriated metrics for the volume testing of the Quiz product server (memory % usage, CPU % usage, etc.)

The testing environment should be included the product test server with the required software (correct version of HTML,CSS and JavaScript components, etc.) and the client workstation with the required software (operating system, browser, players, etc.).

All the system testing tasks (described above) should be performed from the QA team. All test results should be reviewed from the company QM.

### Completion Test Criteria

The completion test criteria should be a successful execution of the volume testing, including the required information for the maximal limitations of the product “Quiz” Server.

### Test Reports

The reports that should be generated by the volume testing are:

* Summary test report (max server limitations and other parameters of the product server);
* Deliver results in terms of volume capabilities on the current system limitations currently are (according to the current server specification etc);

## Cross Browser testing

### Objectives

The purpose of this type of testing is to verify the correct work of different types/versions of the used browsers with the product Quiz with the required versions of the MS Media Player, Real Player, etc.

### Processing

The process for the cross browser testing of the product Quiz includes the following subprocesses:

* Setup the appropriated testing environment (client workstations with different type/versions of the used browsers and the required players);
* Cross browser testing with the following versions/types:
  + Microsoft IE 5.5 and above;
  + Google Chrome
  + Mozilla Firefox 1.0;
  + Minimal Resolution size should be 800 x 600;
  + Operating systems should include MS NT, 2000 XP + SP2 (required), Linux;

The testing environment should be included product test server with the required software (correct version of HTML,CSS and JavaScript components, etc.) and client workstation with required software (browsers MS IE 5.5 and above,Chrome, Mozzilla/Firefox 1.0, MS Media player, Real player, etc).

Initially the QA team will focus on the application.

Later (when the BT team have adapted them) the QA team should be focused also on the player and quiz pages.

All the system testing tasks (described above) should be performed from the QA team. All test results should be reviewed from the company QM.

### Completion Test Criteria

The completion test criteria should be a successful execution of the normal flow in the product Quiz for all required types/versions of the used browsers with the appropriated players.

### Test Reports

The reports that should be generated by the cross browsers testing are:

* Summary test report (for the MS browsers);
* Summary test report (for the Chrome browsers);
* Summary test report (for Mozilla browser);
* Summary test report (for Linux operating system);

## Security testing

### Objectives

The purpose of the security testing is to verify the correctness of the implementation of the site and user management components, correctness and consistency of the global information, correctness of the implementation of product injections when necessarily, etc.

### Processing

In the product “Quiz” it will be HTTP protocol used.

In the security testing should be included the following testing tasks:

* Checking the correctness of the implementation of the site and user management;
* Checking for possible crossing actions between different resellers – it is required these actions should be not crossed;
* Checking the correctness and consistency of the global information;

All the system testing tasks (described above) should be performed from the QA team. All test results should be reviewed from the company QM.

### Completion Test Criteria

The completion test criteria should be a complete execution (without any major issue) for all required testing tasks (described above) in the product Quiz

### Test Reports

The reports that should be generated by the security testing are:

* Summary test report (for the executed testing tasks and checked components);

## Installation Testing/Documentation

### Objectives

The purpose of this task is to verify the completeness and correctness of the installation procedure and product documentation for the product “Quiz” and is to verify the content of the technical documentation for clear, understandable description, correspond to the client requirements. The main purpose in this task is to ensure efficient knowledge transfer (in product details) from the development team to the Client and support teams.

### Processing

The process for the installation testing of the product “Quiz” includes the following subprocesses:

* Familiarize with the described accessing procedure;
* Check the prerequisites for the access process (for example, required service packs for the operating system) in the testing environment;
* Run the access procedure step-by-step;
* Report all identified issues/bugs during the access testing;
* Verify the fixed issues/bugs in the access procedure (re-run the updated procedure);

The Client team will document the production environment that it should be simulated for testing purposes.

The process for the documentation testing of the product “Quiz” includes the following subprocesses:

* Collect all available technical documents from the project repository;
* Verify the content of all technical documents against the real implementation in the product “Quiz” (user interface, pages, menus, etc.);
* Report all identified issues during the testing of technical documentation;
* Verify the fixed issues in the technical documentation (review of the updated technical documentation);

All the system testing tasks (described above) should be performed from the QA team. All test results should be reviewed from the company QM.

### Completion Test Criteria

The completion test criteria for the access testing should be a successful execution of the access procedure without any issues/bugs during the access process of the product “Quiz”.

The completion test criteria for the documentation should be a full (without major issues and notes) conformity of the technical documentation of the product “Quiz”with the client requirements, implemented solutions and used standards during the project lifecycle.

All identified issues during the installation testing/documentation are fixed from the developers and verified from the QA team (re-run the updated installation procedure).

### Test Reports

The Test report for the access testing should be a checklist with all accessing procedure steps with the name of the QA engineer, step status (passed/failed), comments and notes.

The Test report for the documentation should be a checklist with all technical documents (name, short description, document status, name of the QA engineer, comments and notes).

## User Access Testing

### Objectives

The purpose of this task is to verify the correctness of the implementation of the client requirements about the user’s access permissions in the product “Quiz”.

### Processing

The process for the user access testing of the product “Quiz” includes the following subprocesses:

* Familiarize with the user access rights requirements;
* Prepare the test scenario for all roles and combinations in the product Quiz:
  + Single user access:
    - Editor only (view, edit, access quiz)jjects)
    - Site level user access combinations:
    - Editor (view, edit, access quiz)and admin)
    - Global level user access combinations:
      * Editor

The testing environment should be included the product test server with the required software (correct version of mySQL, .NET and C++ components, etc.) and the client workstation with the required software (operating system, browser, etc.).

All the system testing tasks (described above) should be performed from the QA team. All test results should be reviewed from the company QM.

### Completion Test Criteria

The completion test criteria should be a successful execution of the user access testing for the normal flow in the product Quiz, according to the required user’s permissions for the product.

### Test Reports

The reports that should be generated by the user access testing are:

* Summary test report (User’s access to Quiz);
* Summary test report (save,edit data);

## Specification adherence

The main purpose of this task is to ensure that the ongoing QA to ensure each new release adheres to the document “Quiz specification” (up to the point intended by the developers).

## Functional Testing

For the product Quiz there are planned the following types of testing:

* Development testing (test cases suite execution);
* System testing (test scenario execution);

### Objectives

The main objective of the functional testing task is to verify the correctness of the implemented functionality in the product Quiz against the client requirements (described in the updated document “Quiz, Quiz specification”) and used industry standards during the project lifecycle.

### Scope

All identified main parts of the product Quiz will be tested:

* Manage Communications;
* Manage Communications Assets;
* Basic Reporting;
* Administration;

### Processing

The functional testing of the product Quiz includes the following subprocesses:

* Test plan iterations (preparation and review; update and review);
* Test cases design and review;
* Test cases update (synchronization with the updated specification “Quiz” 1.0);
* Development testing - test scenario/cases execution and test results reporting;
* Development testing – fixed bugs/issues verification;
* System testing – separate workflow execution for all users and test results reporting;
* System testing – fixed bugs/issues verification;

The testing environment should be included product test server with the required software (correct version of HTML,CSS, JavaScript components, etc.) and client workstation with the required software (browsers MS IE 5.5, Mozzilla/Firefox 1.0,Chrome, players, etc).

All development testing tasks should be performed from the QA team; the system testing tasks should be performed from the QA team under daily monitoring of the QM. All test results should be reviewed from the company QM.

### Completion Test Criteria

The completion test criteria should be a checklist with a suite of all test scenarios (include all designed test cases and all possible users of the product) and this checklist should be completed (step-by-step) from the QA team. The successfully completion of functional testing should be a trigger to starting of the deployment process of the Quiz product.

### Test Reports

The reports for the functional testing that should be generated by the product testing process are:

* Bugs/Issues summary report – a full list of all identified bugs/issues during the developer/system testing, their severity/prioritization, their current status (identified, in progress, fixed, verified, etc.);
* Summary test reports – total number of test cases/scenario; % test cases executed; % test cases passed; comments and notes for the failed test cases, etc.;

# Testing Resources, Schedule

This section describes significant resources of the testing effort. It items such as roles that are involved in testing on the project, the responsibilities of each, staffing information, etc.

## Staffing

QA staffing of the project, including roles and responsibilities of individual QA roles:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Involvement** | **Responsibility** |
| Juca Oana | QA Lead | part-time | Prepare test plan, provide direction for and review test cases; participant in the meetings with the BT team; report identified bugs/issues, control tests execution and reporting |
| Sabou Sergiu | QA Engineer | full time | Design and execute test cases; report identified bugs/issues; verify fixed bugs; check installation procedure and technical documentation; responsible for the volume testing |
| Repede Calin | QA Engineer | part time | Design and execute test cases; report identified bugs/issues; verify fixed bugs; |
| Ofimias Sofia | QM | part-time | Review all test documents (test plan, test cases, test reports, etc.) and controls the daily activities of the QA team |

## Schedule

The test milestones of the project depend on the project timeline – these milestones should be synchronized with the main development tasks. The prioritization of the QA activities is required from the Client team – focus on the non-functional testing (section 4 in this document – see page 6).

The new testing methodology (QA activities should be strictly followed the development tasks progress) required strongly and precisely coordination between the development and QA teams efforts and perfect synchronizations between the development and QA milestones and deliverables.

## Resources

Resources allocated to the test effort (e.g. equipment, lab, software, etc.).

|  |  |
| --- | --- |
| Resource | Name, version |
| Computer (processor, memory, hard disk, peripheries, etc.) |  |
| Operating system |  |
| Environment to develop functional tests |  |
| Environment to develop unit tests |  |
| Environment to contain documents, program and test code |  |
| Bug tracking system used |  |
| Schedule development environment |  |

Note: If the environment and tools used in the testing process are part of project plan description, there is no need to be described here.