

This is a quick reference guide to the Quality Assurance process. It explains at a high level the key documents QA must receive or prepare during the course of a project cycle to adequately assess the readiness of a product for release.

Although the level of detail in each document may vary by team and project, each is mandatory.

Key QA Documents

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I. PRAD

The Product Requirement Analysis Document is the document prepared/reviewed by marketing, sales, and technical product managers. This document defines the requirements for the product, the "What". It is used by the developer to build his/her functional specification and used by QA as a reference for the first draft of the Test Strategy.

II. Functional Specification

The functional specification is the "How" of the product. The functional specification identifies how new features will be implemented. This document includes items such as what database tables a particular search will query. This document is critical to QA because it is used to build the Test Plan.

QA is often involved in reviewing the functional specification for clarity and helping to define the business rules.

III. Test Strategy

The Test Strategy is the first document QA should prepare for any project. This is a living document that should be maintained/updated throughout the project. The first draft should be completed upon approval of the PRAD and sent to the developer and technical product manager for review.

The Test Strategy is a high-level document that details the approach QA will follow in testing the given product. This document can vary based on the project, but all strategies should include the following criteria:

- Project Overview - What is the project.
- Project Scope - What are the core components of the product to be tested
- Testing - This section defines the test methodology to be used, the types of testing to be executed (GUI, Functional, etc.), how testing will be prioritized, testing that will and will not be done and the associated risks. This section should also outline the system configurations that will be tested and the tester assignments for the project.
- Completion Criteria - These are the objective criteria upon which the team will decide the product is ready for release
- Schedule - This should define the schedule for the project and include completion dates for the PRAD, Functional Spec, and Test Strategy etc. The schedule section should include build delivery dates, release dates and the dates for the Readiness Review, QA Process Review, and Release Board Meetings.
- Materials Consulted - Identify the documents used to prepare the test strategy
- Test Setup - This section should identify all hardware/software, personnel prerequisites for testing. This section should also identify any areas that will not be tested (such as 3rd party application compatibility.)

IV. Test Matrix (Test Plan)

The Test Matrix is the Excel template that identifies the test types (GUI, Functional etc.), the test suites within each type, and the test categories to be tested. This matrix also prioritizes test categories and provides reporting on test coverage.

- Test Summary report
- Test Suite Risk Coverage report

Upon completion of the functional specification and test strategy, QA begins building the master test matrix. This is a living document and can change over the course of the project as testers create new test categories or remove non-relevant areas. Ideally, a master matrix need only be adjusted to include near feature areas or enhancements from release to release on a given product line.

V. Test Cases

As testers build the Master Matrix, they also build their individual test cases. These are the specific functions testers must verify within each test category to qualify the feature. A test case is identified by ID number and prioritized. Each test case has the following criteria:

- Purpose - Reason for the test case
- Steps - A logical sequence of steps the tester must follow to execute the test case
- Expected Results - The expected result of the test case
- Actual Result - What actually happened when the test case was executed
- Status - Identifies whether the test case was passed, failed, blocked or skipped.
- Pass - Actual result matched expected result
- Failed - Bug discovered that represents a failure of the feature
- Blocked - Tester could not execute the test case because of bug
- Skipped - Test case was not executed this round
- Bug ID - If the test case was failed, identify the bug number of the resulting bug.

VI. Test Results by Build

Once QA begins testing, it is incumbent upon them to provide results on a consistent basis to developers and the technical product manager. This is done in two ways: A completed Test Matrix for each build and a Results Summary document.

For each test cycle, testers should fill in a copy of the project's Master Matrix. This will create the associated Test Coverage reports automatically (Test Coverage by Type and Test Coverage by Risk/Priority). This should be posted in a place that necessary individuals can access the information.

Since the full Matrix is large and not easily read, it is also recommended that you create a short Results Summary that highlights key information. A Results Summary should include the following:

- Build Number
- Database Version Number
- Install Paths (If applicable)
- Testers
- Scheduled Build Delivery Date
- Actual Build Delivery Date
- Test Start Date
- Scope - What type of testing was planned for this build? For example, was it a partial build? A full-regression build? Scope should identify areas tested and areas not tested.
- Issues - This section should identify any problems that hampered testing, represent a trend toward a specific problem area, or are causing the project to

slip. For example, in this section you would note if the build was delivered late and why and what its impact was on testing.

- Statistics - In this section, you can note things such as number of bugs found during the cycle, number of bugs closed during the cycle etc.

VII. Release Package

The Release Package is the final document QA prepares. This is the compilation of all previous documents and a release recommendation. Each release package will vary by team and project, but they should all include the following information:

- Project Overview - This is a synopsis of the project, its scope, any problems encountered during the testing cycle and QA's recommendation to release or not release. The overview should be a "response" to the test strategy and note areas where the strategy was successful, areas where the strategy had to be revised etc.

The project overview is also the place for QA to call out any suggestions for process improvements in the next project cycle.

Think of the Test Strategy and the Project Overview as "Project bookends".

- Project PRAD - This is the Product Requirements Analysis Document, which defines what functionality was approved for inclusion in the project. If there was no PRAD for the project, it should be clearly noted in the Project Overview. The consequences of an absent PRAD should also be noted.

- Functional Specification - The document that defines how functionality will be implemented. If there was no functional specification, it should be clearly noted in the Project Overview. The consequences of an absent Functional Specification should also be noted.

- Test Strategy - The document outlining QA's process for testing the application.

- Results Summaries - The results summaries identify the results of each round of testing. These should be accompanied in the Release Package by the corresponding reports for Test Coverage by Test Type and Test Coverage by Risk Type/Priority from the corresponding completed Test Matrix for each build. In addition, it is recommended that you include the full Test Matrix results from the test cycle designated as Full Regression.

- Known Issues Document - This document is primarily for Technical Support. This document identifies workarounds, issues development is aware of but has chosen not to correct, and potential problem areas for clients.

- Installation Instruction - If your product must be installed at the client site, it is recommended to include the Installation Guide and any related documentation as part of the release package.

- Open Defects - The list of defects remaining in the defect tracking system with a status of Open. Technical Support has access to the system, so a report noting the defect ID, the problem area, and title should be sufficient.

- Deferred Defects - The list of defects remaining in the defect tracking system with a status of deferred. Deferred means the technical product manager has decided not to address the issue with the current release.

- Pending Defects - The list of defects remaining in the defect tracking system with a status of pending. Pending refers to any defect waiting on a decision from a technical product manager before a developer addresses the problem.

- Fixed Defects - The list of defects waiting for verification by QA.
- Closed Defects - The list of defects verified as fixed by QA during the project cycle.

The Release Package is compiled in anticipation of the Readiness Review meeting. It is reviewed by the QA Process Manager during the QA Process Review Meeting and is provided to the Release Board and Technical Support.

- Readiness Review Meeting:

The Readiness Review meeting is a team meeting between the technical product manager, project developers and QA. This is the meeting in which the team assesses the readiness of the product for release.

This meeting should occur prior to the delivery of the Gold Candidate build. The exact timing will vary by team and project, but the discussion must be held far enough in advance of the scheduled release date so that there is sufficient time to warn executive management of a potential delay in the release.

The technical product manager or lead QA may schedule this meeting.

- QA Process Review Meeting:

The QA Process Review Meeting is meeting between the QA Process Manager and the QA staff on the given project. The intent of this meeting is to review how well or not well process was followed during the project cycle.

This is the opportunity for QA to discuss any problems encountered during the cycle that impacted their ability to test effectively. This is also the opportunity to review the process as whole and discuss areas for improvement.

After this meeting, the QA Process Manager will give a recommendation as to whether enough of the process was followed to ensure a quality product and thus allow a release.

This meeting should take place after the Readiness Review meeting. It should be scheduled by the lead QA on the project.

- Release Board Meeting:

This meeting is for the technical product manager and senior executives to discuss the status of the product and the teams release recommendations. If the results of the Readiness meeting and QA Process Review meeting are positive, this meeting may be waived.

The technical product manager is responsible for scheduling this meeting.

This meeting is the final check before a product is released. Due to rapid product development cycles, it is rare that QA receives completed PRADs and Functional Specifications before they begin working on the Test Strategy, Test Matrix, and Test Cases. This work is usually done in parallel.

Testers may begin working on the Test Strategy based on partial PRADs or confirmation from the technical product manager as to what is expected to be in the next release. This is usually enough to draft out a high -level strategy outlining immediate resource needs, potential problem areas, and a tentative schedule.

The Test Strategy is then updated once the PRAD is approved, and again when the functional specifications are complete enough to provide management with a committed schedule. All drafts of the test strategy should be provided to the

technical product manager and it is QA's responsibility to ensure that information provided in the document (such as potential resource problems) is clearly understood.

If the anticipated release does not represent a new product line, testers can begin the Master Test Matrix and test cases at the same time the project's PRAD is being finalized. Testers can build and/or refine test cases for the new functionality as the functional specification is defined. Testers often contribute to and are expected to be involved in reviewing the functional specification.

The results summary document should be prepared at the end of each test cycle and distributed to developers and the technical product manager. It is designed more to inform interested parties on the status of testing and possible impact to the overall project cycle.

The release package is prepared during the last test cycle for the readiness review meeting.

Test Strategy Template

QA Test Strategy: [Product and Version]

[Document Version history in format MM-DD-YYYY]

1.0 PROJECT OVERVIEW

[Brief description of project]

1.2 PROJECT SCOPE

[More detailed description of project detailing functionality to be included]

2.0 MATERIALS CONSULTED

[Identify all documentation used to build the test strategy]

3.0 TESTING

- CRITICAL FOCUS AREAS

[Areas identified by developers as potential problems above and beyond specific feature enhancements or new functionality already given priority 1 status by QA]

- INSTALLATION:

[Installation paths to be qualified by QA. Not all products require installation testing. However, those that do often have myriad installation paths. Due to time and resource constraints, QA must prioritize. Decisions on which installation paths to test should be made in cooperation with the technical product manager. Paths not slated for testing should also be identified here.]

- GUI

[Define what if any specific GUI testing will be done]

- FUNCTIONAL

[Define the functionality to be tested and how it will be prioritized]

- INTEGRATION

[Define the potential points of integration with other MediaMap products and

how they will be prioritized and tested]

- SECURITY

[Define how security issues will be tested and prioritized]

- PERFORMANCE

[Define what if any performance testing will be done and its priority]

- FAILURE RECOVERY

[Define what if any failure recovery testing will be done and its priority]

3.1 TECHNIQUE

- [Technique used for testing. Automation vs. Manual]

3.2 METHODOLOGY

[Define how testers will go about testing the product. This is where you outline your core strategy. Include in this section anything from tester assignments to tables showing the operating systems and browsers the team will qualify. It is also important to identify any testing limitations and risks]

4.0 TEST SET-UP

4.1 TEST PRE-REQUISITES

[Any non-software or hardware related item QA needs to test the product. For example, this section should identify contact and test account information for 3rd party vendors]

4.2 HARDWARE

QA has the following machines available for testing:

Workstations: Servers:

[Include processor, chip, and memory and disk space]

Other:

[Identify any other hardware needed such as modems etc.]

4.3 SOFTWARE

[Identify all those software applications QA will qualify with the product and those QA will not qualify. For example, this is where you would list the browsers to be qualified. It is also important to identify what will not be qualified (for example, not testing with Windows 2000)]

4.4 PERSONNEL

[Identify which testers are assigned to the project and who will test what. It is also important to identify who is responsible for the creation of the test strategy, test plan, test cases, release package, documentation review etc.]

5.0 COMPLETION CRITERIA

[Identify how you will measure whether the product is ready for release. For example, what is the acceptable level of defects in terms of severity, priority, and volume?]

6.0 SCHEDULE

6.1 Project Schedule

- PRD Review completed by [MM-DD-YYYY] - [STATUS]
- Functional Specification completed [MM-DD-YYYY] - [STATUS]
- Release Date approved by [MM-DD-YYYY] - [STATUS]
- Test Strategy completed by [MM-DD-YYYY] - [STATUS]
- Core Test Plan (functional) completed by [MM-DD-YYYY] - [STATUS]
- Readiness Meeting - [STATUS]
- QA Process Review Meeting - [STATUS]
- Release Board Meeting - [STATUS]
- Release on [MM-DD-YYYY] - [STATUS]

6.2 Build Schedule

- Receive first build on [MM-DD-YYYY] - [STATUS]
- Receive second build on [MM-DD-YYYY] - [STATUS]
- Receive third build on [MM-DD-YYYY] - [STATUS]
- Receive fourth build on [MM-DD-YYYY] - [STATUS]
- Receive Code Freeze Build on [MM-DD-YYYY] - [STATUS]
- Receive Full Regression Build on [MM-DD-YYYY] - [STATUS]
- Receive Gold Candidate Build on [MM-DD-YYYY] - [STATUS]
- Final Release on [MM-DD-YYYY] - [STATUS]

7.0 QA Test Matrix and Test Cases: