Prioritising your Testing

Article #2 in the 'Introduction to QaTraq Series'

Introduction to QaTraq Series

The 'Introduction to QaTraq Series' is a series of 5 articles looking at how the freely available Test Management tool 'QaTraq' can help address some of the common test process issues. In this second article we look at how QaTraq can help you prioritise your testing and help you focus on the testing that's really important to your project.

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Introduction

We are all very familiar with the concept of assigning priorities to defects. Your average development team does not even have to think twice about prioritising defects or prioritising the work that's associated with fixing those defects. If your development team are so tuned into the priority of their work then shouldn't the test team be more concerned with the priority of their work?

Few development teams are foolish enough these days not to work with a formal process for categorising and prioritising defects. You don't hear many developers saying, "I'm busy fixing the layout issue with the 'read me' file. The application crash that corrupts the database will just have to wait!" The priority you give to fixing different defects is crucial to the success of a project. The priority you give to running a test case is just as crucial!

So if the prioritising of defects is second nature to us why is it that prioritising testing isn't second nature? Well it could be argued that most test teams just don't have the tools at their disposal to execute such an approach effectively. So, needless to say in this article we're going to look at how QaTraq can be used to prioritise the execution of your testing.

Please note that the approach to prioritising your testing discussed here applies to QaTraq version *6_2_beta* and later. You will also need the QaTraq reports package *0_6_beta* or later (links to the download page can be found at the end of this article).

The Concept of Test Case Priorities

Before we look how to prioritise our testing in QaTraq we need to grasp a couple of QaTraq concepts. Basically a test case standing on its own means very little to anybody. A test case, like a pawn in a game of chess, only takes on meaning when it's placed in the context of the rest of the game.
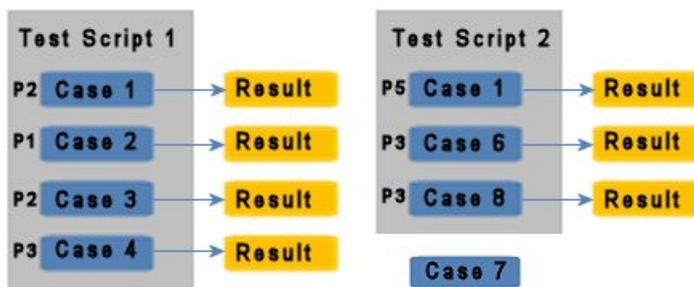
Diagram A

In QaTraq a test case only starts to mean anything when it's placed in the context of a test script. Once a test case is placed in the context of a test script it is assigned a specific test result record and then takes on a priority in relation to other test cases.

Diagram A along with the 4 points below should help make this a little clearer.

1. Test Case 7 hasn't been included in any test scripts so it doesn't have a related test result record or a priority assigned to it.

2. Test Cases 1, 2, 3 and 4 all belong to Test Script 1. When placed in the context of Test Script 1 they take on specific test results. These test cases also take on priorities in relation to the other test cases in the test script. For example in Test Script 1, a priority of P2 has been given to Test Case 1.

3. Test Case 2 may have a priority of P1 but that does not affect the order that the test case is displayed in the test script (see below for an explanation of the difference between order and priority).

4. You will also notice that Test Script 2 contains Test Case 1. However, in the context of this test script, Test Case 1 takes on a different priority. In this test script the test case takes on a priority of P5.

So the priority is used to indicate how important a test case is in the context of a test script. Priority values are specified in terms of P1, P2, P3, P4 or P5 (P1 being the highest priority and P5 being the lowest).

Establishing the Priority at the Test Script Level

QaTraq was designed to record the priority at the test case level. However in some circumstances it may be preferable to specify the priority at the test script level. For example Test Script 1 might need a priority of P1 and Test Script 2 might need a priority of P5. To implement this approach in QaTraq it is necessary to set all the test case priority values in a test script to one priority level. Thus, in Test Script 1 all test cases would be set to P1 and in Test Script 2 all test cases would all be set to P5.

Entering Priorities as you develop your Test Scripts

How do we go about defining and entering the priorities in QaTraq? There are two points in the process of developing test scripts where you can define the priority of the test cases.

1. *Including Test Cases in a Test Script*
   When you first start including test cases in a test script, each test case can be given a priority value. The default priority is P3 but you can change this as you include a test case.

2. *Modifying Test Scripts*
   Once you have created a test script, and included the test cases, you can modify the test script. When you modify the test script you can change the priority for any or all of the test cases included in the test script.

We're assuming here that you know how to include test cases and modify test scripts in QaTraq. If you need detailed instructions on how to complete these actions please refer to the User Guide (links to the User Guide can be found at the end of this article).

You will notice, when including test cases and modifying Test scripts, that you can also specify the order of each test case within the test script. The difference between the order and priority values assigned to a test case are as follows:

Priority - is used to indicate how important a test case is. Priority values are specified in terms of P1, P2, P3, P4 or P5 (P1 being the highest priority).

Order - is used to order the test cases included in a test script. If you specify an order of 1 then this is deemed to be the first test case to be listed in the test script (and the test results). Test cases with order values greater than 1 will come after test cases with an order of 1.

Establishing the Right Priority for Your Tests

We can't help you decide on the precise priorities for your testing, as this is dependent on the product or application under test. However we can give you some guidance to help you get started. There are a number of aspects to establishing the correct priority for your test cases, which can help:

1. Defining the meaning of each priority level
2. Ensuring consistent priorities across all test scripts
3. Reviewing results from previous test runs in QaTraq

Other aspects to consider when determining priorities, which we don't discuss here:

4. Reviewing defect trends from previous releases of the product
5. Identifying where bugs have been fixed or new functionality has been added
6. Balancing the priority of tests across early, mid and late builds

1. Defining the meaning of each priority level: It can be helpful to provide guidelines to the test team to help them interpret the 5 different priority levels. Providing definitions helps to increase understanding of what the different priorities of test cases relate too. The definitions found at the end of this document might provide a good starting point for you and your team. Please remember the definitions provided are meant to give you a starting point to help you define your own specific priority definitions.

2. Ensuring consistent priorities across all test scripts: Using the '*Scripts per Build Priority*' report you have the capability to see instantly the priorities of test cases across a number of product builds (or versions).

The example '*Scripts per Build Priority*' report in Diagram B shows the number of test cases, within each test script, that are set to priority P3. For example 'Test Script 1' (for Ver 5) has 5 test cases set to P3 out of a total of 7 test cases in the test script.

Product Version Test Design Test Script	Ver 5	Ver 6	Ver 7	Ver 8
test design 2				
Test Script 1	5 / 7			7 / 7
Test Script 2		0 / 7		7 / 7
Test Script 3			1 / 7	

Diagram B

A good approach when starting to set the priorities across a number of test scripts (perhaps for a specific build like Ver 8) is to set all the tests to a priority of P3 to start with. So in the example in Diagram B you can see that 'Test Script 1' and 'Test Script 2' for Ver 8 all have priorities set to P3. Then with all the priorities set to P3 you can go through the test scripts in turn deciding if each test case should be a higher priority or a lower priority.

Alternatively, if you want to set priorities at a test script level, you set all the test scripts to have all of their test cases at P3. Then you take each test script in turn and change all the priority values for a script, comparing each script against other scripts within the test plan.

3. Reviewing results from previous test runs in QaTraq: In a similar manner to the method described above you can use the '*Scripts per Build Priority*' report to show priorities used in previous test runs (either for a previous build or even a previous release of the product under test).

In addition to this you can use the '*Test Case Defects*' report to show which areas showed up defects in previous test runs. Perhaps then deciding to raise the priority of the tests in a new script based on defects logged against tests in previous test runs. You can also use the '*Test Script Summary*' report for a previous test run to see where failures were identified in previous test runs. Again determining the high priority tests for a new test script based on the areas where failures where seen previously. See the Reports Catalogue for more information regarding the '*Test Case Defects*' and '*Test Script Summary*' reports (a link to the Reports Catalogue can be found at the end of this article).

Running the High Priority Tests First

Once you have defined the test case priorities it is time to start testing. All you need now is to identify the testing which needs to be dealt with first. So how do we identify the tests that we should be dealing with first? Well the key to this is the '*My Test Script Priorities*' report.

Results						
My Test Cases for the 'Product 3' Product.						
Plans:	test plan 1	Product Versions:	Ver 5	Result Categories:	Pass Acceptable Fail Outstanding Not Tested	Priority Categories: P1 P2 P3
Version	ScriptID	ResultID	ResultCat	Priority	CasesCount	
Ver 5	TSC17-0.1	TRS17-0.1	Outstanding	P1	2	
			Outstanding	P3	3	

Diagram C

In the example report in Diagram C we are looking at a count of the test cases, in each test script, which have a result category of 'Outstanding' (i.e. they still need to be executed) and which have been given a priority of P1, P2 or P3.

From this report, shown in Diagram C, we can see that Test Script TSC17-0.1 has 5 test cases which have a priority of P1 and P3, and which have a result category of 'Outstanding'. These 5 test cases are out of a total of 7 test cases in the test script. However, we don't see the two P5 test cases listed because we didn't define these in the report criteria (i.e. we only asked to see test cases with a priority of P1, P2 or P3).

Reporting Progress

With testing under way we need to obtain an up to date, accurate, report on the test progress. Using the '*Test Script Summary Priorities*' report you will find you can clearly see how testing is progressing with the high priority test cases.

In Diagram D we are looking at the count of test cases for Test Script TSC17-0.1, which have a priority of P1, P2 or P3. The count of test cases is further broken down by the result category assigned to each test case.

Results

Test Script summary for the 'Product 3' Product.

| Plans: | test plan 1 | Product Versions: | Ver 5 | Result Categories: | Pass Acceptable Fail Outstanding Not Tested | Priority Categories: | P1 P2 P3 |

Product Version Test Design Test Script	Pass	Acceptable	Fail	Outstanding	Not Tested	Total
Ver 5						
test design 2						
TSC17-0.1	2	0	1	2	0	5

Diagram D

In this report it is obvious that we are making progress with the high priority test cases. Even though we still have 2 outstanding high priority test cases we've identified one test case failure and two test cases that have passed. So this report could give us some confidence in the progress we're making.

Of course we could reverse this report and view P5 and P4 priority test cases. If we see high numbers of passed test cases in these priority categories we might be a little more concerned that the test team is concentrating on the least important tests first.

Top Tips

Top Tip #1

For testers the key report needed to track tests assigned to them, on a priority basis, is the '*My Test Scripts Priorities*' report. This report only lists results that are assigned to a specific tester. You will find that this report can become indispensable when, for example, you need to identify P1 test cases, which still have a result category of 'Outstanding'. Once you have identified the high priority test cases assigned to a tester, you will find direct links on this report to the associated test script and test result pages.

Top Tip #2

The '*Scripts per Build Priority*' report is one of the key reports to use when defining and reviewing the priorities you have assigned. You will notice that this report also provides you with direct links to the test script or test result records. When using this report you can select if you want to see links to the test scripts or the test results. We suggest that, when you are defining the priorities, you select links to the test scripts (so that you can immediately go to a test script and modify the priorities). When you are reviewing the priorities we suggest that you select links to the test results (so that you can review a test scripts results immediately and see what result categories are being logged against the test cases).

Summary

In the space of a few pages we've seen how you can define the priority of your test cases when you create and modify test scripts in QaTraq. We have also seen a number of approaches that can help establish the right priorities for your testing. However, it is the way QaTraq helps the tester identify the right tests, and how QaTraq helps the test manger ensure that the right tests are completed, that is critical to the success of your test project.

It can take a lot of effort to prioritise and track your testing. However, it can take a lot less effort to prioritise and track your testing with QaTraq.

In the next article in this series we take a look at how QaTraq can help track your test case coverage.

Example Priority Definitions

These priority definitions are by no means definitive but they may be a good place to start when it comes to defining your own test case priorities.

P1 – Failure on this test is likely to result in a loss or corruption of data. This test must be run as soon as practicable and must also be run on the final build.

P2 – Failure on this test is likely to results in unacceptable loss of functionality. This test must be run as soon as practicable. The test should also be run for the final time once development in this area of functionality has stabilised.

P3 – Failure on this test is likely to result in loss of functionality but there may well be workarounds available. This test should be run only once development in this area of functionality has stabilised.

P4 – Failure on this test is likely to result in loss of functionality that is not critical to a user. This test should be run once and probably need not be run again.

P5 – Failure on this test is likely to indicate a trivial problem with the functionality. If time permits it would be nice to run these tests but they need not be completed if the time scales don't allow (i.e. if this test was carried out and failed it would not stop the product shipping)

About QaTraq Reports

QaTraq reports provide a quick and simple method to report your test status and progress. For more details about the latest reports and instructions on how to install reports please refer to the web site given in the link below.

Reports Overview: http://www.testmanagement.com/rep_overview.html

Related Documents

Please find below a selection of links that will help you get started with QaTraq and help you get the best out of your QaTraq installation.

QaTraq Home Page: http://www.testmanagement.com

QaTraq Download Page: http://www.testmanagement.com/download.html

Reports Download Page: http://www.testmanagement.com/rep_install.html

QaTraq User Guide (Stage 6): http://www.testmanagement.com/user_stage_6.html

QaTraq 'In Practice':   http://www.testmanagement.com/in_practice.html

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Feedback: http://www.testmanagement.com/feedback.php