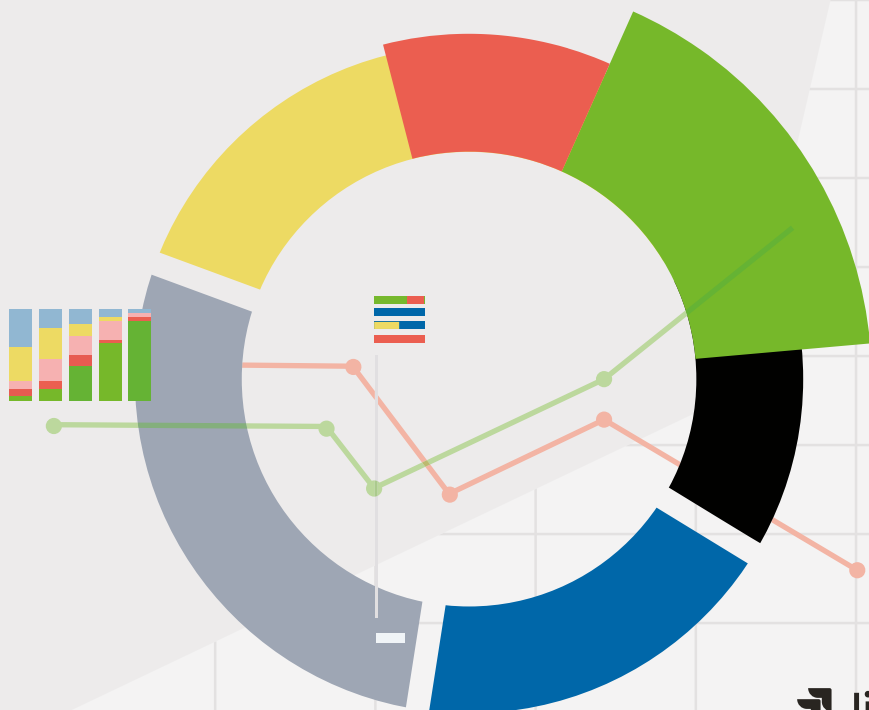




# How to measure and **report** quality metrics



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## Introduction

# Why testing metrics and reports are important for QA managers

QA Managers need metrics to measure the effectiveness of their testing strategy and methods. The right metrics guide your decisions and help you make pivots and change direction appropriately when you see that something is not working.

Just as important as it is to have insights that gauge your state of development and testing progress, this information needs to be easily accessible and freely shared between testers, managers and other stakeholders to ensure that progress is properly analyzed and appropriate action is being taken.

The right test management tool needs to have proper oversight and the ability to analyze the QA process from a bird's eye view as well as being able to drill-down and dissect minute details. For QA managers, it's also important to have visibility into your team's progress, where there are potential bottlenecks and how to improve productivity.

Of course, these testing insights and metrics also have to be passed on and shared with other stakeholders. Everyone from QA managers to testers and C-level executives need different insights into the QA and

testing process, and the right metrics and reports will meet each of these individual needs.

In this eBook, we guide you through the most important testing metrics and how you can use Xray reports, gadgets, and features to measure and exceed your quality goals.

*“Measurement...is just one means to an end. That end is: the marshaling of good evidence to inform our assessments of quality that can be used to make business decisions. (e.g. when to ship the product; how good is the product team; are problems with the product or the team persisting, accumulating, or getting resolved?)”*

James Bach | Software tester, author, and consultant

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How to use  
reporting to reach  
organizational goals

2

# How to use reporting to reach organizational goals

*"How about instead of saying we are measuring quality, we say we can measure clues about quality? We can collect indicators and make sense of them. We can use measurable data of many kinds for that purpose."*

James Bach | Software tester, author, and consultant

Quality can be an elusive concept that is hard to measure, but it's important to define it within your organization if you want to accurately measure your testing progress and success.

Breaking down quality helps you extrapolate the right metrics to measure your progress. If you're not tracking your progress, how will you know what's working in your testing and QA strategy and what isn't?

Since testing is a means to reach quality, you want to first define quality, and then set your testing metrics to measure your progress. The right metrics measure your current status of quality and testing, and guide you with valuable insights as to where and how to improve.

Once you've identified your definition of quality and what success means to your team and your organization, you can begin to find ways to measure it.

Xray - Test Management App provides crucial reports to address a QA managers greatest needs. Each of the reports addresses a specific need or goal, but can also be used in many different ways to extract insights about the quality process.

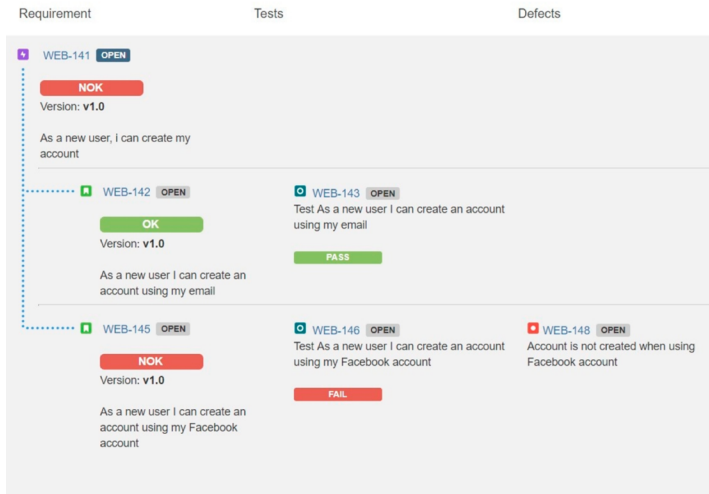
Let's take a look.

# Traceability Report

## Goal

Your organization is heavily regulated. You need to ensure that every requirement is tested before a release.

## Solution



## Use Case

Medical manufacturers commonly need to provide proof of requirements traceability in order to meet certain FDA or ISO requirements.



*“Xray gave us full traceability of the requirements from specifications to test plans and test results. As a medical device manufacturer, Xray helps us maintain compliance with regulations while saving us development effort and cutting reporting time by 50%.”*

Ron Kurtz | VP of Engineering at MyndTec

As you can see, the Traceability Report is one of the most effective reports to analyze your overall readiness to deploy in terms of requirements coverage and visibility. This is one of the first markers of a release that meets all expectations/requirements and will guarantee the software meets the functions that were expected.

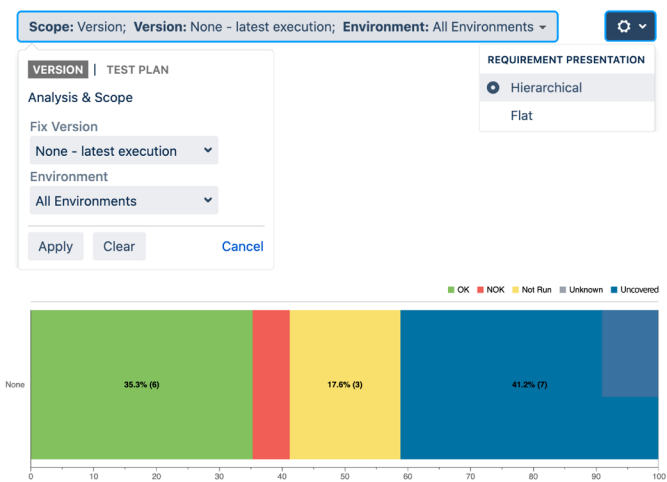
However, there are many more markers that will ensure even more quality. Let's take a look at the Overall Requirement Coverage Report.

# Overall Requirement Coverage Report

## Goal

You want to estimate when your team is finished testing and ready for a release.

## Solution



The Overall Requirement Coverage Report gives you immediate visibility into your readiness to deploy. Just looking at this report, you can see immediately if you're ready to release or not.

Why is it important

Helps evaluate current status of releases

Gives QA managers the visibility of progress/readiness

Able to pass this information to development to keep everyone updated about progress of testing

What information is relevant

Many fields to filter the requirement issues, user stories, epics, or you can search by JQL

Performance of testing per sprint

Finding areas of improvement

Shows where the information comes from

You can choose the scope, and analyze by version for example

## Use Case

*"I really like the [Overall Requirement Coverage Report](#) because it gives you a clear picture of what requirements are not covered with test cases, it gives us a fast overview of what I need to do in the project. I try to hit 100% as fast as I can."*

Kenni Thomasberg | Software Test Engineer at DEIF

# Historical Requirement Coverage

## Goal

You want to analyze your testing efforts and the status of a project and give an overall project summary to stakeholders.

## Solution



Coverage reports are for the test manager, product managers, and all stakeholders involved in a release to see the status of the project.

## Why is it important

Provides valuable information to all of the stakeholders interested to know the status of tests

Shows proof for the completion of tests

Shows proof that tests are passing/status of tests

Can be used for companies that outsource their development/testing

## What information is relevant

Shows the status in a given time / Shows the status of results by time frame

You are able to see an evolution of your testing progress (within a given day, within a week, within a month)

Helps you analyze your performance and can estimate if you are meeting the deadline for your releases

## *Use Case*

*“Previous to Xray, we were using only Excel to manage our tests and results, but that became impossible the more tests we had. Now we build advanced reports, with requirements & test coverage. I can export testing documents with a click of a button. With Xray and Xporter, our test documentation is 50% faster.”*


Ron Kurtz | VP of Engineering at MyndTec

# Test Plans Report

## Goal

You want to know how your team is performing and ways to improve your operations.

## Solution

Filter(s)  How to read this report

FILTERS | SAVED FILTER

Fix Version

All

Assignee

All

Issue Key or Summary

Status

All

Resolution

All

☐ Include Previous Versions

Apply

Clear

Cancel

Key	Summary	Version	Planned start date	Planned end date	Test Environments	Tests By Status														Tests By Test Type				Success rate by Test environments		Linked Defects	
						Planned	Not Started	In Progress	Failed	Passed	Blocked	Skipped	Retried	Cancelled	Other	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted	Unexecuted
BOOK-370	version 3.0 theme 1	3.0				3	0	4	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
BOOK-382	Test plan for raised security					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BOOK-324	Test Plan for tests related to the authentication					2	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BOOK-308	Test plan for bugs 10					1	0	4	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
BOOK-306	Regression					2	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
BOOK-30	Test Plan for v1.0	1.0	18/Feb/19	23/Feb/19	2:03 PM	2	16	16	16	0	0	1	0	0	0	2	14	0	0	100%	93.8%	93.8%			1	0	0

The Test Plans Report gives you visibility into the progression of your initially planned Test Plans and aggregates all of them to get an overall picture of your readiness when preparing for a release.

This report also gives you visibility into defects. If any defect is created during the execution, it will appear in this report. You can click directly to the linked defect and see if they are open or closed.



The defect is a link between the tester and the developer. If a test fails, the tester creates a bug/defect in Jira, this way developers can click through this report and see where there are defects that need to be addressed.

1. Test Runs provide metrics about test execution
2. You can use a predefined filter / saved filter
3. You have a specific version that you want to analyze, choose a fix version

Most common: analyze per version, latest version,  
choose if the test plans are closed or not

Sprint, labels, status, (status of the issue)  
resolution, components, labels

After execution a test, you can set the resolution  
"fixed, won't fix"

4. You can measure by planned and start date

## *Use Case*

*"I look a lot into the Test Plans, to see what's the status, what test cases to rerun, and test cases are linked to different defects."*

Karin Holm Sjøberg | Test Engineer at DEIF

# Test Executions and Test Runs Report

## Goal

Analyze your team's performance and find ways to improve operations and eliminate bottlenecks.

## Solution

Test Executions Report

Switch report

File Version v3.0

How to read this report

Showing 20 of 245 entries

Load all

Tests By Status

Tests By Test Type

TE KEY	SUMMARY	PLANNED VERSION	START DATE	TEST ENVIRONMENTS	Tests By Status										Tests By Test Type					ELAPSED TIME	
					PLANNED	PENDING	STARTED	IN PROGRESS	COMPLETED	FAILED	ABORTED	RETRY	RETRY	RETRY	RETRY	RETRY	RETRY	RETRY			
CALC-1972	Test Execution for Test Plan CALC-1967 v3.0	-	-	WIS	3	2	0	0	1	0	0	0	0	0	2	0	1	0	100%	66.7%	4m
CALC-1969	Test Execution for Test Plan CALC-1967 v3.0	-	-	UNKNOWN	5	5	0	0	0	0	0	0	0	0	4	0	1	0	100%	100%	2m
CALC-1968	Test Execution for Test Plan CALC-1967 v3.0	-	-	WIS	5	2	0	0	3	0	0	0	0	0	4	0	1	0	100%	40%	-
CALC-1968	Ad-hoc execution for CALC-1964	v3.0	-	-	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0%	0%	4d 22h 29m
CALC-1961	Ad-hoc execution for CALC-1967	v3.0	-	-	1	0	0	0	1	0	0	0	0	0	1	0	0	0	100%	0%	2d 7h 10m

The Test Executions Report aggregates all of the executions performed within the context of a test plan, giving you visibility into which tests are failing and need to be run again. Here you can see tests by test types and you will get hand metrics like the test progress and success rate.

You can create a new test execution for a failing test, and just run it again instead of changing the status.

Why is it important

You are interested in gathering insights at the test execution level

See how your team is performing and where to improve

Always shows the latest status of the execution

Find and eliminate testing bottlenecks

What information is relevant

Check how testers are performing

Identify time spent on test executions

Measure the progress of your test with the visible percentage of completion

## Show you the aggregated results of all the executions within a Test Plan

Test plan for a specific version or sprint (if you work in agile this is useful because all of the tests can be grouped by a Test Plan)

Split your version by components and by Test Plans

On a very complex application, you can create test plans by different components

## See the number of open and closed defects

### *Use Case*

At DEIF, Test automation runs at least daily, so they use the [Test Execution Report](#) to check the status of those tests and which ones are failing. They have much better test coverage because requirements are linked – this was all done manually before.

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How to use dashboards  
and agile boards to make  
informed decisions

3

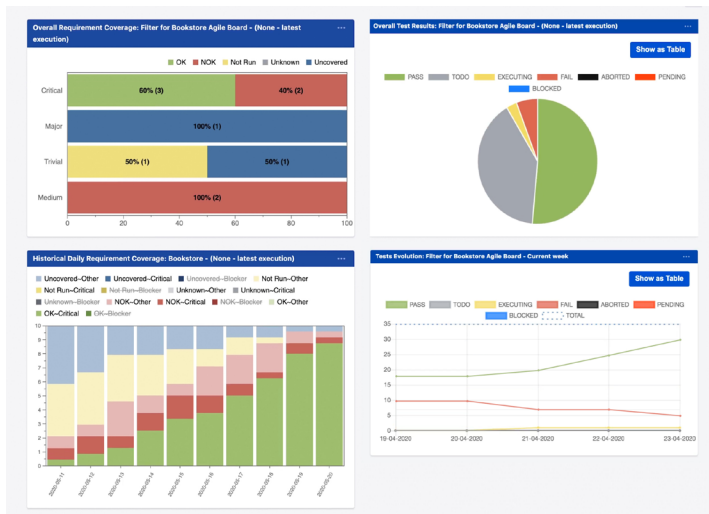
# How to use dashboards and agile boards to make informed decisions

## Customizable dashboards

Dashboards are an essential tool for making smart decisions in software projects and delivering timely, high quality releases.

Xray's fully customizable dashboard offers every member on the QA team complete visibility into their progress and daily tasks

Start your day with full visibility into knowing what's on your high-priority to-do list.



Dashboards can be customized to your individual needs. If you're a tester, you can use the Test Runs summary gadget which groups individual test runs by different categories like priority, components, test types, automated or manual tests. These tests can be grouped by assignee, so you can start your day with full visibility into knowing what's on your high-priority to-do list.

QA Managers and QA leads can keep track of the evolution of tests with the Test Evolution gadget which shows which tests are passing or failing. This provides an overall view of information that needs to be shared with development about potential bugs and errors.

Lists are also another great customizable gadget and you can create many types of lists like a list of your test plans, test executions or test runs.

## Agile Boards

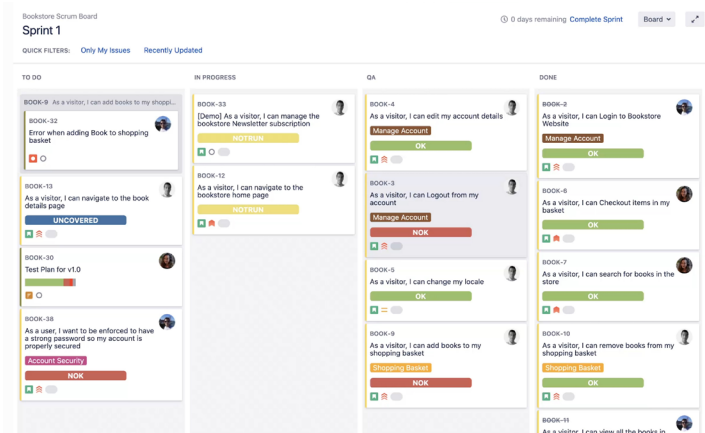
**Agile boards are single handedly the fastest way to give full transparency and visibility into your testing project.** Developers can see directly which tests are assigned to requirements as well as which ones are passing and failing.

Agile boards are highly customizable and you can use them to adapt to your team's methods of working. If you're working in Scrum with sprints, you can



customize your lanes to give visibility into the status of your tests from *to-do* to *done*.

Xray's agile board enhancements on the Cloud provide visibility into the status of testing and if every requirement is passing or failing.



A Developer only has to look at the agile board to see the progress of the QA. If they see that a specific test is failing, they can directly address it and make the fix. This visibility speeds up the work and allows for testers and developers to take proactive action on each other's work.

*"Thanks to Xray's enhancements on the [Jira Agile Boards](#), everyone on the team, including developers, has visibility into the status of their requirements and test cases."*

Kenni Thomasberg | Software Test Engineer at DEIF

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Communicate  
valuable information  
with stakeholders

4

# Communicating valuable information with stakeholders

One of the most important functions of a QA manager is liaising and communicating information with key stakeholders about the progress and evolution of their projects.

Having access to information is great, but actually sharing it into digestible documents is trickier and can often be time consuming.

Taking these pain points into consideration, a newest Xray feature is the Document Generator which allows you to extract vital information and share it with stakeholders.

What can you do with the **document generator**?

Create a hard copy of the test-related issues.  
Especially relevant for regulated industries

Prepare a presentation for the board with the latest status of your tests exported directly from Xray.

Store your release coverage and status before launch with a quick report with Doc. Gen.

Share information with someone without Jira access.

Export Agile boards with requirement status and coverage.

Customize your report templates and embed your brand into all your exports.

Access to the template store with Xray reports that are ready-to-go.

Fully customize the templates to fit your organizational needs.

Deliver a comprehensive test report in just a few clicks.






Document Generator Templates

In this page you can manage global templates of the Xray Document Generator. All the templates listed here are available for all the Jira projects.

+ Add

Store

Search

Name	Scopes	Last Modified
<div><div></div><div><div>Offline Test Report</div><div>Offline Test Report.xlsx</div></div></div> <div>UPLOADED</div>	EVERYWHERE	<div>Andrea Filipa Pereira Costa</div> <div>25 Jun, 2020</div> <div>16:41</div> <div></div>
<div><div></div><div><div>Requirement Traceability Matrix Report</div><div>Requirement Traceability Matrix Report.docx</div></div></div> <div>UPLOADED</div>	EVERYWHERE	<div>Andrea Filipa Pereira Costa</div> <div>25 Jun, 2020</div> <div>16:41</div> <div></div>
<div><div></div><div><div>Requirements Reports</div><div>Requirements Reports.xlsx</div></div></div> <div>UPLOADED</div>	EVERYWHERE	<div>Andrea Filipa Pereira Costa</div> <div>25 Jun, 2020</div> <div>16:42</div> <div></div>
<div><div></div><div><div>Test Execution Advanced with Cover Page</div><div>Test Execution Advanced with Cover Page.docx</div></div></div> <div>UPLOADED</div>	EVERYWHERE	<div>Andrea Filipa Pereira Costa</div> <div>25 Jun, 2020</div> <div>16:42</div> <div></div>
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NEXT

## Conclusion

# Using software testing metrics to guide your decisions

As you've seen, measuring quality can be challenging due to the many different dependencies and factors and the best way to approach it is to define what quality means for your organization and how you can get there.

[James Bach](#), the leading expert in software testing, argues that to assess quality, you have to gather evidence about:

**How you tested.** What did we test and what did we ignore? There are many interesting dimensions of coverage, and without an understanding of coverage, our findings will be impossible to interpret.

**What you found.** The specific problems or interesting absence of problems. We need to understand the implications of the findings, not just count the reports.

**What that tells you about business risk.** We must relate our findings to the purposes of our project; to the business and the customers.

At Xray, our ongoing focus is to provide you with the best test management tool, and we know that reporting is a valuable part of that.

Xray's extensive reporting features provide great insights into the effectiveness of your efforts, the strategy and increase the overall level of quality.

Of course, Xray provides you with flexibility to adapt your reporting and metrics to your unique organizational needs.

# Links



[www.getxray.app](http://www.getxray.app)

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