SPECIFIABILITY AND TESTABILITY METRICS

SMARTER KPIS DRIVE SMARTER DECISIONS - PART 2

Specifiability & Testability

Keywords:
Specifiability
Testability
Smart KPIs
Risk Management
Decisions

Abstract: *This paper addresses the need for smarter metrics for **managers to make the right decisions** during a Sprint, a project or a program, but also to make the call **when to ship** a new release in production or to consumers.*

*The vast majority of organizations still make such decisions based on **SWAG** (1) rather than documented metrics that matter. XStudio brings a set of automated and real time **KPIs** (2) to help in this.*

*This paper explains how this works using XStudio's **specifiability** (weighted specification coverage) and **testability** (weighted test coverage).*

*All this builds on the **scope** notion addressed in the first paper of this series (part 1) and describes the major advantages that this brings. Please ensure reading this paper first.*
The third paper of this series (part 3) will expand the notion of scope, specifiability and testability to the quality aspects.

Summary

Introduction

In the the first paper of this series (part 1), we introduced the reasons why managers need to know more than just "*are we progressing fast enough?*". We also explained in detailed how the weighted scope coverage KPI can tremendously help managers to decisions during the project or sprint lifecycle.

Help

In this paper, we address and extend this notion to cover the **Specifiability** and **Testability** KPIs.

Specifiability

XStudio does not impose to manage specifications. Although this is quite useful for many projects, including those that are defined as "Agile". When you get a User Story, you often need to define some aspects of the story: GUI wireframing, basic workflows, data in and out, computation or decision rules...

You capture those using a large array of tools, from simple pen and paper to advanced modeling tools. Many organizations still use full textual natural language documents. Whatever your context and practices are, you may benefit from managing those as part of your ALM and managing the traceability from Requirements to Specifications and Tests to tests results.

As you may wonder, some specifications may cover multiple requirements and of course some requirements may cover multiple specifications. This makes the computation more complex to determine the SUT's specification coverage.

Testability

This same issue exists when calculating the SUT's test coverage. As for the requirements coverage, XStudio handles this using:

- specification's priority
- specification's status
- test's priority
- test's executability

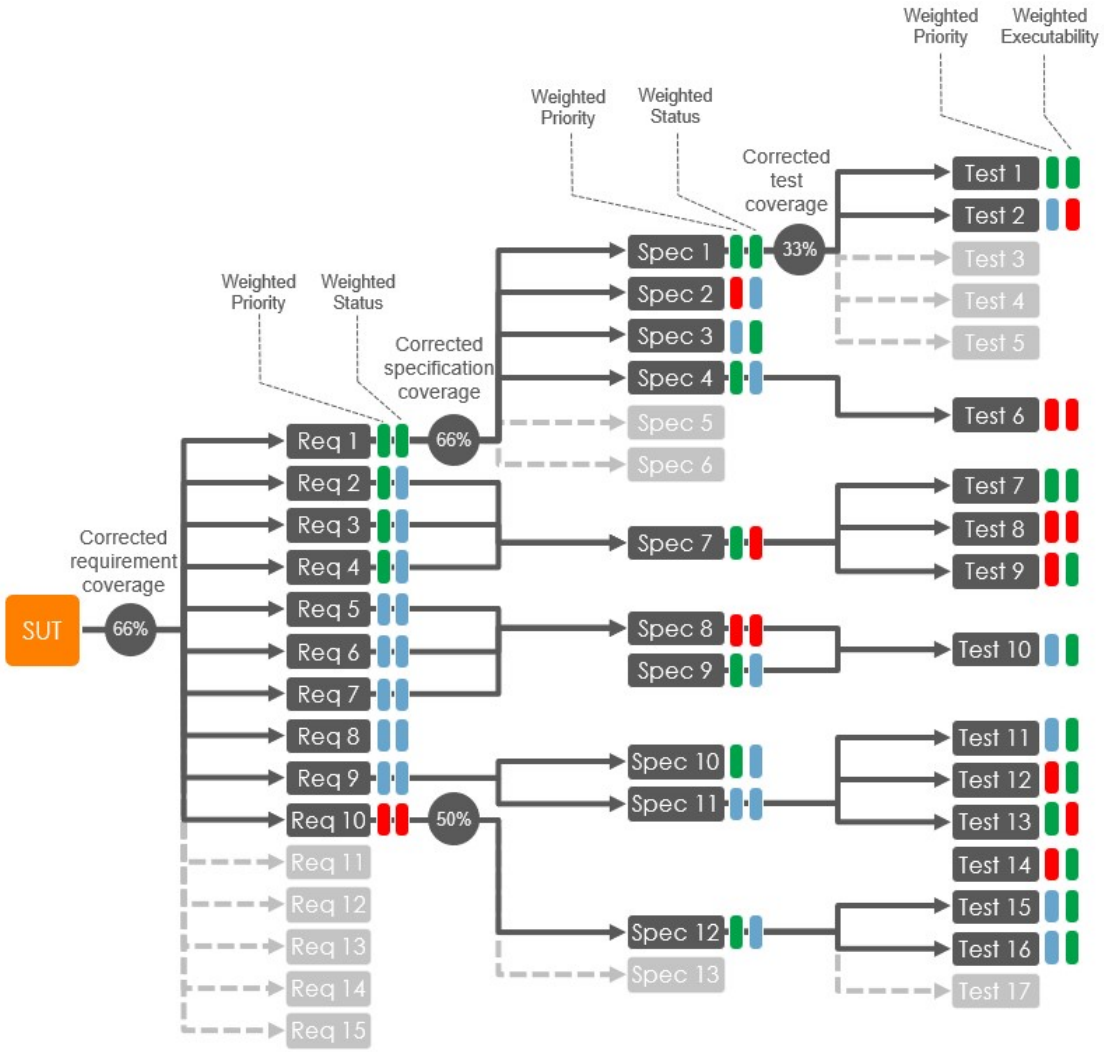

Figure 1 : Cross coverage from requirement by specification

Describing the full detailed algorithm is beyond the scope of this paper but you get a basic idea in the previous paper.

The important information here is that for each SUT and SUT Folder you get 3 KPIs:

- Weighted Requirement Coverage (also named **Scope**)
- Weighted Specification Coverage (also named **Specifiability**)
- Weighted Test Coverage (also named **Testability**)

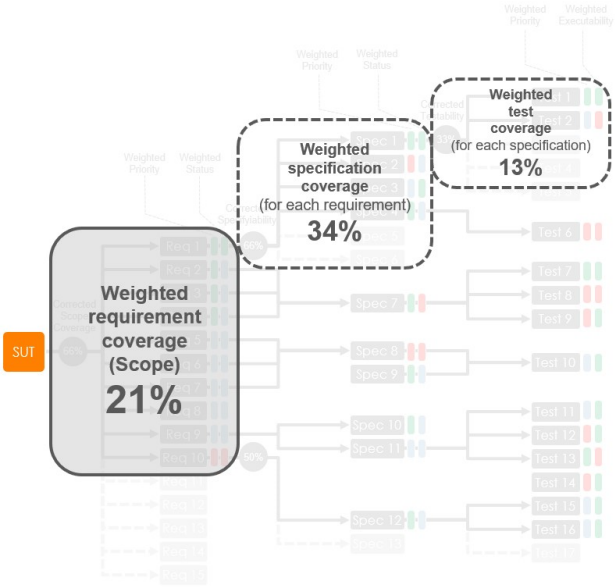

Figure 5: Weighted requirement coverage consolidation 1

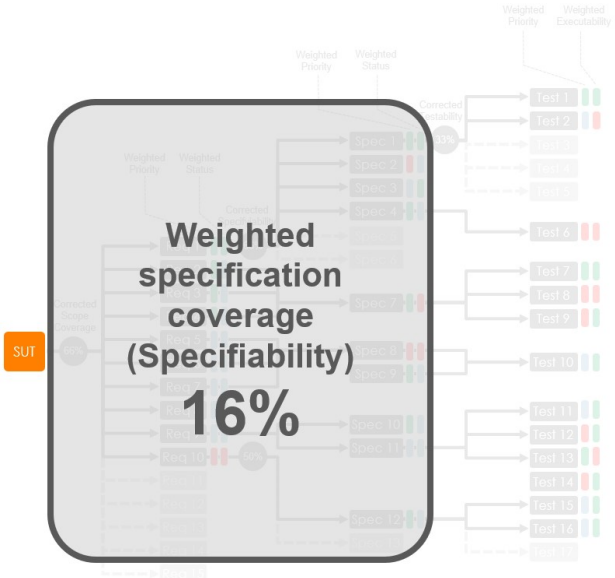

Figure 6: Weighted specification coverage consolidation 2

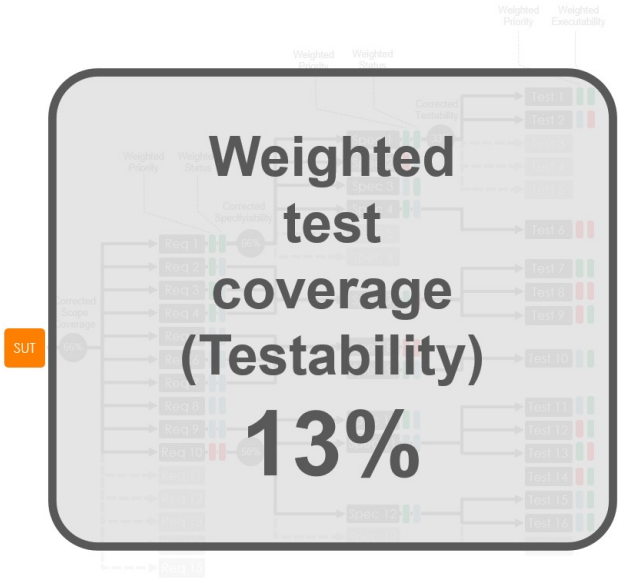

Figure 7: Weighted test coverage consolidation 3

Using those three KPIs together, you can get a much better view of the projects progress status. As explained in the previous paper, being able to know where your coverage levels stand at any time during the project allows taking smarter decision. For example, here, if you are in a context where each functionality, each component must be tested, the following diagram (Figure 2) would alert you very rapidly... you are not quite there yet!

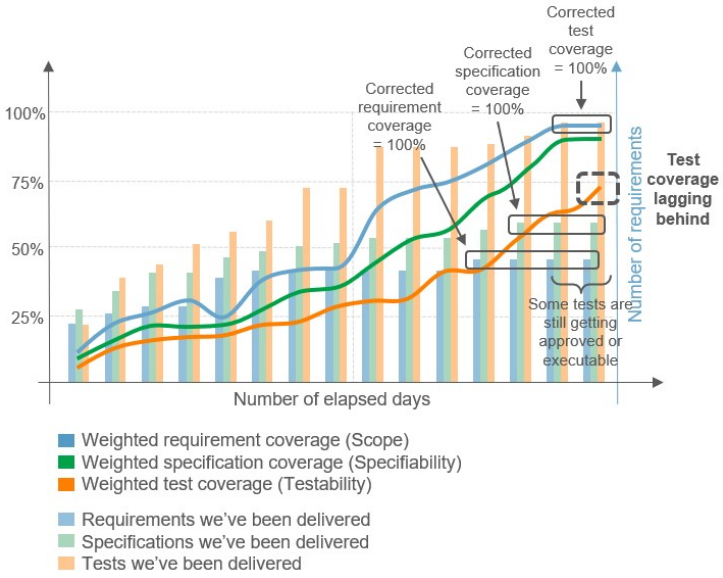

Figure 2: Test coverage progress

Therefore, in such case, you clearly must decide either to reduce the scope or to lengthen the project duration.

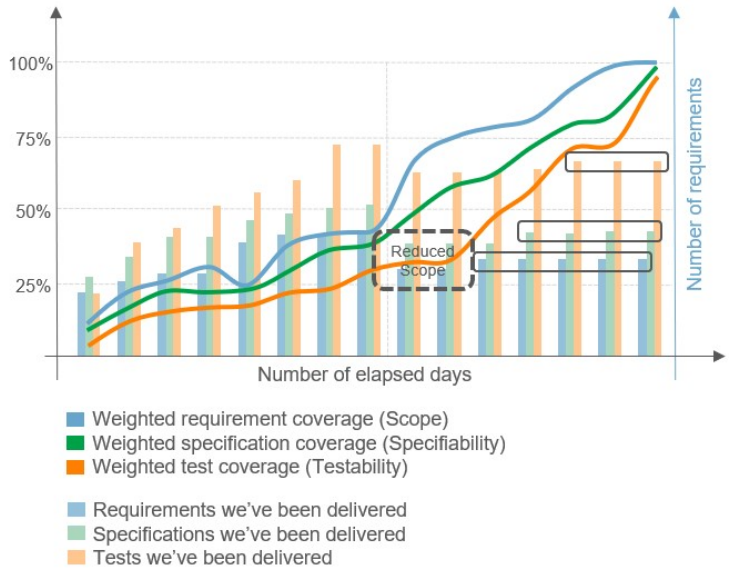

Figure 3: Reduced scope

Conclusion:

WE'VE SEEN 3 DIFFERENT BUT RELATED KPIS IN THE TWO FIRST PAPER OF THIS SERIES:

- **SCOPE**
- **SPECIFIABILITY**
- **TESTABILITY**

YOU CAN BENEFIT FROM THOSE CONSIDERING YOUR CONTEXT AND QUALITY POLICIES.
AT ANY TIME, YOU CAN ANALYZE THE TRUE STATUS OF YOUR PROJECT AND MAKE SMART DECISIONS. AT THE END OF ANY CYCLE (SPRINT, RELEASE, PROJECT), YOU HAVE THE TOOLS TO DECIDE WHETHER YOU WANT TO PUSH THIS TO PRODUCTION OR SHIPPING IT TO YOUR CUSTOMERS.
THOSE KPI ARE CALCULATED REAL-TIME AND THE BASIC PARAMETERS ARE ALL CONFIGURABLE, MAKING IT EASY TO ADAPT TO ANY ORGANIZATION. WE'LL SEE IN THE NEXT WHITE-PAPER HOW WE CAN BENEFIT FROM THOSE METRICS TO GENERATE A NEW ONE: THE QUALITY SCORE.

References:

(1) SWAG: https://en.wikipedia.org/wiki/Scientific_wild-ass_guess
(2) KPI: https://en.wikipedia.org/wiki/KPI

Figures:

Figure 1: Cross coverage from requirement by specification
Figure 2: Test coverage progress
Figure 3: Reduced_scope

Social Networks: