All You Need to Know About Test Management

The software development lifecycle comprises many processes that ensure a product is ready for use. To live up to these standards, organizations have disparate teams responsible for each phase. From design to development and deployment, one critical stage stands out: testing. You can waste a software's complete lifecycle if you don't know how reliable and effective it is.

Test management is how software teams plan, execute, and evaluate all testing activities across each phase of software development (design, development, delivery) to ensure high-quality and robust software applications.

Alleviating several pain points in the testing phase is only one benefit of test management. It also enables organizations to do the following:

- Deploy quality software faster, ensuring that you meet deadlines on time.
- Easily manage data related to different testing types.
- Assess appropriate test coverage for full requirement traceability.
- Detect bottlenecks earlier in the software development lifecycle (SDLC) through quality metrics and traceability reports.
- Gain visibility into the entire project's progress.

Test Management in Action

Test management is not a one-time activity. It involves a series of steps:
- Risk analysis
- Estimation and planning
- Organization
- Execution, which includes monitoring and control, issue management, and reporting and evaluation

Test management starts with testing and quality assurance (QA) managers conducting risk analysis to identify and address hidden risks early. Next, test estimation and planning follow to assess and define the scope, cost, and correct approach. After that, estimation and planning pave the way for an organization to allocate duties and roles, specifying who does what and to which processes.

After planning, testing managers perform a test evaluation and control. This assessment helps identify and oversee the implementation of required metrics and the allocation of resources. If there are any concerns, test management deals with them in the issue management phase. Once testing is over, the QA leads and task managers conduct a test evaluation and report their findings. This report summarizes how much the testing covered and helps decision-makers develop better approaches to test management in software environments.

Let's detail each phase step by step on how test management works.

Risk Analysis

Risk analysis is the first step that task managers must carry out before anything else. It solidifies the list of functional and non-functional requirements and shows where potential weaknesses can emerge during testing. Risk analysis also triages non-functional requirements such as testability, performance, and security to estimate the level of risk.

Estimation and Planning

In this second phase, QA personnel estimate the required quantity of resources (human labor, cost, operational hardware) and scope (projected timeline) to conduct testing. This assessment ensures adequate resources in each phase of test management.

Once the preliminary test estimation is complete, the task manager details a comprehensive testing approach. This is a clear set of test objectives, deliverables, and resource planning to help select the necessary human skills for each phase.

Organization

Organization involves QA managers assigning skilled personnel from the test planning phase. The organization phase defines each testing team member's core responsibility and matches their competency to the ever-growing changes in the testing environment. This phase also refines the activities to perform and lays out the team's goals.

Monitoring and Control

Monitoring and control is the first execution test. Test managers check to see if the metrics (funding, schedule, and resources) are going as planned with the current test activities. Test monitoring collects, records, and reports testing activities so that project managers and stakeholders can know the project's progress. After analysis and monitoring, the testing team adjusts the metrics depending on the flow of resources. Test managers must realign the testing benchmarks if the testing process isn't going as intended.

Issue Management

Not all processes and estimates will work as planned. There will always be complications, such as meeting the deadline, a lack of skilled labor, or a low budget. These are the main problems that issue management tries to avoid. Test managers should prioritize each metric and devise a solution early enough to meet the deadline without exceeding the budget and losing the clients' trust.

Reporting and Evaluation

This final step incorporates compiling test reports and an in-depth evaluation of all testing procedures. The report summarizes the performance of the software so that chief information officers (CIOs) and stakeholders can review it before conducting other phases of development.

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Test management is a complex, intensive process that can take a lot of resources to plan and execute, with many responsibilities in the hands of task managers and QA leads. It can be frustrating to achieve the requirements in each phase, let alone meet all the required core objectives.

A test management tool can alleviate these pain points and help keep everything in check. Test management tools act as a single source of truth by consolidating and tracking test efforts into one intuitive dashboard. Consolidation improves team collaboration, and as a result, there is increased visibility into the test environments.

Atlassian Test Management Tools

Jira is Agile Teams' leading software development tool. Examples of test management tools for Jira include Zephyr, Xray, and TestRail, among others. These tools increase the productivity and efficiency of your test management teams by streamlining test cycles. As a result, it is easy for stakeholders and CIOs to conduct audits and report evaluations faster.

Let's look at the most popular test management tools for Jira.

Zephyr Scale

Zephyr Scale offers fully-featured and refined test management with scalable solutions that offer advanced performance test planning, coverage, and reusable features. Zephyr Scale makes it easy to track requirements in test cases and test plans to increase broad-ranging traceability and test case scope.

Benefits

This solution offers the following benefits:
- Cost-effective and improved test efficiency.
- Beginner-friendly, making it easy for users to pick up.
- Reliable in tracking and detecting test issues.

Xray

Xray is an automated test management tool in Jira. It streamlines a development workflow into a single collaborative unit so teams can align their activities. Xray incorporates testing for quality in its testing stages, ensuring a bug-free environment.

Benefits

This solution offers the following benefits:
- Natively supporting Jira with agile and scrum boards that provide rich team collaboration.
- The availability of comments makes it easy to keep each activity in check in case of any issues.
- Xray makes it easy to integrate with other apps through Jira Issues which include several third-party add-ons.

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TestRail

TestRail modernizes testing processes by enriching visibility into QA environments and accelerates the rapid release of high-quality software.

Benefits

This solution offers the following benefits:
- Helps manage test cases, plans, and suites
- TestRail allows users to get real-time insights that help arrive at important test decisions by stakeholders and CIOs
- Increases testing productivity. Team members can coordinate swiftly through the availability of test filters, email notifications, and to-do lists.

Next Steps

To deliver quality software products, organizations must invest in test management. Its complex processes and responsibilities for test and QA managers make it difficult to conduct the process manually.

Centralized test management tools increase operational team and stakeholders' collaboration, boost project and release progress visibility, and make it easier for test teams to meet product release timelines. Overall, it improves customers' trust.

Jira Software, an Atlassian solution, makes it easy to incorporate enterprise test management tools such as Zephyr, Xray, and TestRail. The incorporation of test management tools makes it possible to test cases directly using Jira Issues. If you want to check any available Atlassian tools, you can visit Methoda, the Atlassian marketplace, to try out Atlassian enterprise for your test management solutions.

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