QA Consultants

Software testing an agile environment

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Many companies are coping with a faster pace of infrastructure, application and product change by adopting Agile development methodologies. There are many flavors of Agile but all of them employ iterative, dynamic and team-based features. The Agile approach differs significantly from the traditional, mechanistic and linear Waterfall development method. Given the differences, many IT managers are unsure where and how critical testing activities fit in. Specifically, what is the role of testing in Agile methodologies? And, how do you test mission critical software within this approach?

Our considerable experience with hundreds of Agile projects reinforces the importance of properly planned and executed testing, whether in pure or hybrid development environments. The key success factor for IT managers is to understand how critical testing actions are executed and by whom.

In Waterfall development, testing activities are defined early and executed at the end of the development. There is role clarity, execution certainty and (hopefully) committed resources. On the other hand, Agile development employs testing but in a totally different way. Testing activities are executed more iteratively, in real time and with less documentation. The difference is in style and approach but not importance and intent. Simply put, ensuring proper testing is just as critical in Agile as it is in Waterfall.

Given the relative newness of Agile development, most CIOs remain understandably and appropriately cautious about how they can leverage it. They want the flexibility and time-to-value benefits of Agile without incurring extra risk, rework and cost. As well, our clients regularly ask how we can leverage our proven Waterfall methodologies, testers and automated tools into their emerging Agile environment.

Below are some of our key learnings:

1. Working with agile teams

Great talent is at the heart of every Agile project. Successful Agile projects require a team of technical experts who possess a unique set of soft skills such as effective communications, coordination and problem solving. Not surprisingly, assembling a high performance Agile team is not easy or inexpensive to create or maintain. Many companies don't want the cost, time lag or hassle of recruiting or having expensive resources sit idle on a bench when they can more easily and economically outsource to objective, Agile-savvy testing firms like QA Consultants 'on demand.'

In general, our approach is to meld Agile-ready resources quickly and seamlessly within the client's dynamic Agile environment. Expertise, flexibility and agility are our by-words. Our talent can provide real-time testing, consulting or facilitation support 'as needed, when needed,' to suit the rhythms and pace of the Agile project. Since every project need and environment is different, our testing resources can be mix n' matched within multiple scrums or as consultants/governance experts within a project management office.

The high tempo nature of Agile requires getting the right people in right places at the right time. We actively recruit, vet and maintain a bench of Agile-ready testers with right package of soft skills. Moreover, we regularly train these resources to fit seamlessly within an Agile process, in order to provide expert testing along with supporting scrum coordination, integration and reporting. Finally, many of our Agile team members have the capability to concurrently interact with Agile and non-Agile teams to ensure coordination, scalability and the sharing of best practices.

2. Defining testing's role and strategy

Goal definition, planning and defining testing strategy are vital in Agile but are undertaken differently. The reality is that defining the goals and what the desired "end state" looks like is not always simple in an Agile world.

We spend a lot of time at the outset ensuring testing needs are properly covered off and instilled within the daily testing activities. For example, we help the client understand the role of testing and planning in Agile as well as defining the technical, business and project goals upfront including coverage and resource requirements. We proactively support the identification of goals and what "done" looks like. Agile's iterative and sprinting nature relies heavily on everyone having a deep and common understanding of what success looks like and how they will get there. Following goal definition, we help Agile teams ensure they have the right resource allocation and a complete understanding of all the requirements and risks.

In another example, we work with project owners to determine the testing strategy as well as identify possible pitfalls and enablers. If Agile is to be successful, testing must be core and embedded within the development process. Furthermore, special attention must be paid to information management. In particular, which information needs to be captured, reported and archived. This is a vital task given that many Agile environments purposely generate less documentation to go faster. In some cases, our clients have asked us continue to provide Waterfall type services (e.g., documentation, archiving) as a back-up and to capture our best practices.

Following project is kicked off, we provide regular feedback and reporting on how the project team and the code is tracking against the objectives. Since the end goal is likely to change in an Agile world, our experts can continue to play a vital role by re-focusing the testing effort to ensure the latest business and technical priorities are being met.

3. Choosing tools and methodologies

We supercharge Agile development by leveraging and tailoring our proven Waterfall testing approach to the unique demands of Agile projects. In Agile environments, all types of testing tools and methodologies are used, depending on the technical requirements. For example, we have undertaken regression testing, load testing and security testing to name but three use cases. Moreover, we made our proprietary and production-proven methodology, Quality Point ™, Agile-ready. Its practical and risk-based approach is ideal for dynamic and iterative testing styles as well as minimizing project cost and risk.

Our proprietary Agile approach emphasizes quality and rapid outcomes while reducing technical and business risk. For example, our services produces new automated regression test cases to free up Agile developers for coding, without compromising on the need to maintain the existing testing profile. We also provide a technical and business safety net for Agile teams, by delivering timely and detailed testing feedback as well as important reporting and documentation. This accelerated feedback loop improves code quality, reduces errors and accelerates project delivery time.

4. Testing in hybrid environments

Transitioning from a Waterfall to an Agile development approach takes time. As a result, most organizations follow a hybrid Agile/Waterfall approach, at least in the beginning. Supporting clients with hybrid development practices require us to be flexible and agile. Furthermore, our choice of testing tools and processes need to be agnostic, without compromising the achievement of project goals. The specifics of our testing approach and work style will depend on the existing project and business need as well as culture of the team. Where possible, we would work with the client to identify which Agile or Waterfall testing methods and testing best practice could improve their unique environment.

Conclusion

Moving to Agile need not create uncertainty, cost or risk.   Savvy organizations have recognized that they can enjoy the benefits of Agile development and still get dynamic, objective testing feedback, high quality documentation and peace of mind from a proven, testing leader like QA Consultants

For further information please contact:

Harry France
Sr. VP Sales
(519) 575-0314
hfrance@qaconsultants.com