

# Constructing a Dream House or Digging a Money Pit

## How “Agile Testing” Can Make a Difference to Your Software Development Projects



Agile development and testing involve the customer at all stages of the software development process, making sure the final product works as it should.

Find out how Keane can partner with you to implement testing approaches that best fit your organization, work style, and needs.

are released. Say for example you are building a trade-capture system for an investment bank. As a starting point you might define an overall set of requirements to define the full scope of the development. Then for the first iteration, you define in detail what are the most critical user features and functions (such as capturing manual and batch trades and ensuring straight through processing). All subsequent iterations capture user features and functions in decreasing levels of importance to the user.

### Introduction

When building a home, you wouldn't hand a set of plans over to your contractor and then board a plane for a six-week vacation. No, you'd want to be there every day to answer all the questions that inevitably crop up during construction: from the big issues (Is the layout right?) to the small ones (Do you want recessed or track lighting?). Moreover, you'd want to be there when unexpected problems arise. (The windows you ordered are the wrong size!)

The user communities of many companies approach developing software like absentee landlords. They hand over an exhaustive list of requirements to the developers only to be surprised six months later when the program doesn't look like or function the way they expected it would. Whether you are building your dream house or a new securities trading system, to ensure that you get what you want, it is best to be involved. Agile software development and agile testing involve the customers or end users at all stages of the software development process to ensure the final product works and looks the way the customers want it to.

### What Is Agile Testing?

Agile testing, also known as test-driven development, turns traditional testing approaches on its head. With traditional methods, test cases are written after code is developed. With agile testing, test cases are written during the planning phases of a development project so that the tests actually drive the development process to ensure that the software functions as the user expects it to. The idea is simple: Write a test case that articulates the outcome you want. This is often expressed in a “user story,” which describes how a user (for instance, a broker) goes about doing a task (such as making an OTC trade) and how the software supports the task. Then write just enough code to get you there. Continue to do this until everything you want is expressed and coded.

### Shortened Requirements-Gathering

Gone is the months-long requirements-gathering process inherent to traditional waterfall development projects. Instead, requirements are gathered as they are needed. The project advances in small iterations, typically two- to three-week segments at the end of which customer-defined functions and features

### Collaboration

Taking the place of heavily documented requirements is collaboration — among developers, testers, and the customer. With agile methods, the customer is highly involved in both the testing and development of the software. The customer provides immediate feedback to the development team as the project progresses and sits with the testers to define tests that will instruct the software to execute the expected business function. The tester's role is also highly collaborative, working with the customers to figure out what they want and with developers, making sure customer needs are met. With the agile approach, testers are essentially part of the “creation” team. They are not limited to the back room testing code with no hand in its production.

### Benefits of Being Agile

While working in a highly collaborative environment without extensive amounts of upfront documentation is a departure for many team members and executives, its aim is to make the development process more nimble and, well, agile. We've already spoken about one of



## ViewPoint: Keane's QA & Testing Practice

the major gains of the agile approach: ensuring that the outcome matches customers' expectations. But the benefits are many, including making sure deadlines and budgets are met, and that defects are detected and fixed as early as possible.

The further along a defect is allowed to remain in the development cycle, the costlier it is to fix (some reports say the cost increases tenfold per development phase!). Yet, as reported in *Shine Technology Magazine*, projects that implement agile development and testing methods reduce costs by 95% and improve productivity by 93%.

How is this so? By working in short project iterations (where a small set of features are tested and coded), agile testers catch functional defects earlier in the development phase, thereby lessening the cost to fix those errors later on. Additionally, with the continuous exchange among developers, testers, and the customer, fixes and changes can be made more easily without becoming entangled in extensive change-control procedures. In other words, you won't be in the position of tearing apart your new kitchen because the water pipe for the sink is in the wrong place. If you run into something unexpected — if for example there are more bugs than anticipated and time becomes an issue — less-critical features can be dropped to meet a deadline.

### Obstacles to Going Agile

The biggest obstacle to implementing agile development and testing is a corporation's internal structure and culture. Many companies, especially large ones, cling to old methods and the documentation that supports them.

Encouraging a traditionally silo'ed organization to break down barriers between testers, developers, and the customer can be a challenge. Yet, this intermingling will foster cooperation that will lead to shared responsibility for the quality of the software project. (Read "Meet the New Tester: Laying the Foundation for Preventative Testing Practices" for more information on how to infuse your software development projects with structured testing with the help of a new type of tester. Available at [www.keane.com/Keane\\_Ideas/whitepapers](http://www.keane.com/Keane_Ideas/whitepapers).)

Another obstacle for many companies is the high cost of regression testing associated with agile projects. Because project iterations are numerous, the cost of regression testing (or retesting existing functionality as new features are built) adds on itself over the life of a project. These costs, however, can be combatted by using cost-saving resource models and practices, such as offshoring and automated regression testing.

### Finding the Right Partner

Many organizations choose to employ a partner with considerable experience with a variety of business and technical environments and development frameworks to ensure success. However, it is wise to perform a detailed assessment of the potential partner's qualifications. For example: Does the company have the technical skills and project management experience to take on a project of your scope? Is the firm familiar with your industry and business processes? Will the firm be accountable for its performance through metrics and service level agreements? Does the firm offer a mix of global

delivery options, such as onsite, offsite, nearshore, and offshore resources? And does the firm use common processes, management disciplines, methodologies, and metrics across all teams to ensure consistent, predictable, and high-quality performance?

It is important to remember that agile is a method for developing software, not managing projects. Therefore, select a partner with proven governance and project management practices. If your firm is new to agile development and testing, find someone that understands the pitfalls and can help you formulate a strategy to adopt agile as a mindset across the company.

While an agile development and testing approach is not the answer for all projects, it is important to surround yourself with talented professionals and for the user community to be involved for any type of software development project. Remember, you have to live in the house you build.

### Keane's QA and Testing Practice

For 40 years, Keane has been helping its clients across major industries minimize costs, mitigate risk, and maintain visibility into their quality assurance and testing initiatives. Whether you are new to agile testing or have adopted cutting-edge QA and testing practices, Keane can tailor its proven testing frameworks and approaches to fit your organization, your work style, and your needs.

To find out more about Keane's QA and Testing Offerings, contact us at [info@keane.com](mailto:info@keane.com) or 1.887.88.Keane.

### About Keane

Keane partners with businesses and government agencies to *optimize* IT investments by delivering exceptional operation, maintenance, and evolution of mission-critical systems and business processes. Keane helps clients realize the greatest value from their IT investments by leveraging an insider's hands-on understanding of the nuances and subtleties of their applications, processes and infrastructure making the recommendations we give more actionable, the work we do more pragmatic, and the results realized more measurable.

In business since 1965, Keane is an agile, midsized, full service IT services firm headquartered in the United States with approximately 13,000 employees globally. For more information on Keane's services, solutions, and locations, please visit [www.keane.com](http://www.keane.com).

