PARASOFT®

CASE STUDY

WoodmenLife Redefines Testing to Reach Quality Goals

OVERVIEW

Founded in 1890 and based in Omaha, Nebraska, WoodmenLife is a not-for-profit fraternal benefit society. It offers whole, term, and universal life insurance as well as individual retirement annuities, workplace plans, non-qualified annuities, mutual funds, and 529 College Savings Plans to members.

As a not-for-profit life insurance company in the United States, WoodmenLife has been helping to protect the financial future of families and making a difference in hometowns across America.

Though still a very person-oriented industry, the work that WoodmenLife does benefits from automation, too. Changing technology means adapting to the needs of clients and improving efficiency, output, and processes. To maintain a high level of financial performance, the company shifted from waterfall to Agile methodology.

WoodmenLife

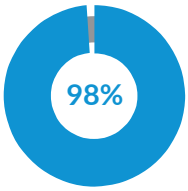
Industry:
Insurance

Company Size:
1,500

Location:
Omaha, NE

Solution:
SOAtest, Virtualize, CTP

KEY RESULTS



Reduced manual UI testing time by 98%.

Saved 6,000 hours of testing time per year.

Increased code coverage and tester efficiency.

THE CHALLENGE

When WoodmenLife decided to move development from waterfall to Agile, it raised a big question: How could they bring an updated automated testing methodology into the entire process?

With more than 10 years in quality assurance roles and leading automation efforts, Danny Oslin knew that the Agile moniker would not mean that quality would follow effortlessly. However, his QA management and automation experience led him to endorse Agile as the foundation to deliver value to the organization.

> *"Looking at getting quality embedded within those Agile teams, it's one thing when you say we want to be Agile. You don't just become Agile suddenly and then everything starts working well. And you certainly don't get to a high level of quality right out of the gate either."*
>
> —Danny Oslin, Manager of Enterprise Automation at WoodmenLife

Because waterfall is a linear-sequential life cycle model, testing is always done upon completion of each phase. This model doesn't allow for continuous pipelines, a methodology that can greatly improve early bug identification and risk management. An Agile environment requires different testing strategies and workflows. After all, as Oslin pointed out, knowledge is nothing without proper management and planning.

Continuous Integration & Continuous Deployment

The ultimate goal for Oslin's automation team is a true continuous integration and deployment (CI/CD) development and testing environment. Before, the team was using a model where QAs primarily went through the UI, which is too far to the right on the timeline.

Instead of testing for unknowns, the mantra "test early and often" became the new plan. That meant the team needed to gain an understanding of what and when to test. And that brought up the whole concept of shift-left testing within the development cycle. It's an approach that Oslin and his team are adopting to make the transition into Agile.

The objective is about more than just automating older processes. It's also about clearly determining the following.

- What can be automated?
- Which tests to keep?
- Which tests to add?

Shifting left entails preventing problems and mitigating risks ahead of time versus addressing bugs after deployment.

> *"To shift left, change how you're working, not the work you're doing. Transform the mindset and the processes, redefine your strategy, and use the tools to help achieve that goal."*
>
> —Danny Oslin, Manager of Enterprise Automation at WoodmenLife

QA engineers should be engaged throughout the development life cycle so that they have an understanding of how the software should be tested and what it will take to make it happen. It's also crucial for developers to adopt the knowledge that the UI isn't the entry point for testing.

THE APPROACH

Holistic approaches can often help teams gain an understanding of the process and how to operate more effectively. The same work can be done but will be accomplished differently.

To help the team transition from the waterfall mindset of waiting until the end of the development cycle to test, Oslin and his team leveraged a "Three Amigos" concept made up of three key teams.

1. Requirements writers
2. Developers
3. QA engineers

In discussions among the Three Amigos, they established a clear understanding of what would be required from their respective roles to accomplish the goal.

Automated Transparency & Documentation for Better Workflows

If a tester isn't privileged to knowledge or information before work begins, they lose valuable time gathering that information. This causes churn on teams because they have to get clarification from developers on expectations. Instead of having detached silos, the new approach allows for a shared understanding of the work scope, expectations, and workflows.

WoodmenLife's developers understand the importance of unit testing and will incorporate it earlier into the development life cycle. This will ensure that everything works the way it should from the developer's perspective. After that, functional tests at the service level ensure that things function properly.

By the time the code gets deployed to the QA team, the testers have developed a test plan with adequate and appropriate test cases to ensure the desired results.

THE SOLUTION

Though Oslin wanted everything the team developed to be tested through automation, the only initial entry point was through the UI. UI testing is time-consuming and doesn't scale easily.

The team has reduced four weeks of manual UI testing effort down to three hours for automated API service level testing for one release test cycle.

Having to run the entire UI automation within a small window of time in a sprint became a bottleneck. To shift their testing to the left for efficiency, their Agile adoption involves extending test automation beyond the UI to the unit and service levels.

The Parasoft solution enables them to perform both unit and API testing within their Agile workflow. From how they do the builds and handle deployments to test and workflow management, it has become a foundational change in strategy.

The team has reduced four weeks of manual UI testing effort down to three hours for automated API service level testing for one release test cycle. On a monthly release cadence, they saved 500 hours of manual testing.

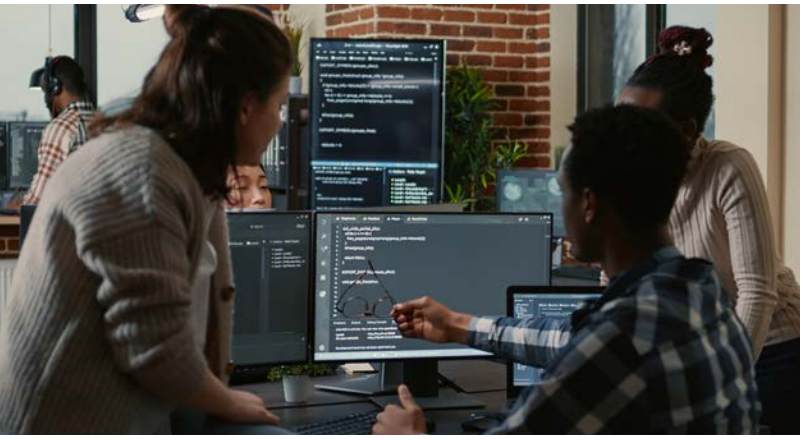
With a measured approach toward Agile, the team started with developers working on the code. The next step was for the automation engineers to write out the test automation so that, upon code delivery, the automation is ready to be executed.

It takes a high degree of collaboration between QA and Dev to pull this off. The code must become more testable, requiring the team to modify the way they write the code for the UI to make control identification easier. Parasoft's platform clearly shows code coverage with visible results that help to mitigate risk without manually scoring or maintaining tests. This allows Oslin and his team to define the test coverage for applications and measure its accuracy.

With a focus on best practices for aligning traceability with test management, the team will know exactly which lines of code are being executed and tested inside of that application to validate that all changes are verified. This analysis capability, known as change-based testing, was the determining factor in the team's selection of Parasoft as a solution to support and enhance their Agile workflow.

THE RESULTS

Parasoft SOAtest and Virtualize allow Oslin's automation team to transition most of their functional testing to service-level testing or API testing. This will ensure that everything works properly to deliver data to present through the UI by using virtual services.



Parasoft CTP also helps them control the environment they need for testing the payment system. Before, they would have validated it through time-consuming manual testing that created false records. Now, they can test and verify that the payment system is functioning properly by isolating it from the backend and using a virtual service to handle the traffic. This eliminates manual effort that was required to identify and remove invalid payments generated in the production system from the testing.

Ultimately, what Oslin learned was that by educating developers on the value and importance of automated testing and involving the QA team earlier, WoodmenLife could improve processes and make things better for their team and clients.

Their new workflow leverages best practices of static analysis and unit testing. It also adds API testing with service virtualization, while still performing an appropriate amount of UI testing to cover the entire application.

Automated integration testing ensures WoodmenLife meets its full requirements. "The ultimate goal is to have true continuous integration and continuous development," Oslin said. He and his team have a solid strategy to achieve that goal.

TAKE THE NEXT STEP

Download the whitepaper to learn how your team can benefit from Agile development and seamlessly move to a CI/CD workflow to continuously deliver quality.

ABOUT PARASOFT

Parasoft helps organizations continuously deliver quality software with its market-proven, integrated suite of automated software testing tools. Supporting the embedded, enterprise, and IoT markets, Parasoft's technologies reduce the time, effort, and cost of delivering secure, reliable, and compliant software by integrating everything from deep code analysis and unit testing to web UI and API testing, plus service virtualization and complete code coverage, into the delivery pipeline. Bringing all this together, Parasoft's award-winning reporting and analytics dashboard delivers a centralized view of quality enabling organizations to deliver with confidence and succeed in today's most strategic ecosystems and development initiatives—security, safety-critical, Agile, DevOps, and continuous testing.