QUALITEST[™]

Leading Telematics and Fleet Management Organization Gains Faster Test Coverage by Embracing Automation

When our Client was struggling to maintain the balance between the testing coverage of new application functionality and governmental regulations, turning to automation turbo charged their testing scalability for greater success.



SURATION #1

ALS PRISE

Challenges

Our Client struggled to maintain the balance between the testing coverage of new application functionality and governmental regulations.

Calculations around estimated automated coverage of those regulations were unreliable due to a lack of consistent traceability between manual cases, automation scripts, and regulation requirement.



Solutions

Finding and closing known gaps in test coverage and introducing enhancements to the current testing processes.

The conversion of uncovered regulations into manual tests and then automating existing automatable manual test cases in order to reach the desired automation coverage.



Results

Reduced potential project blockers by up to 60% and avoided delays while increasing testing quality and known metrics.

Increased the scalability aspects of multiple testing processes and practices by up to 80%.

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Client overview

Our Client is a highly advanced telematics and fleet management company, used by multiple organizations such as Walmart, to provide an easily managed fleet solution that adheres to all governmental regulations. Its app and website allow for both drivers and back-office employees to ensure shipments and deliveries run as smooth as possible.

More and more businesses are needing to meet the increased demand of goods being transported. Our Client offers a scalable solution to organizations in order ensure seamless fleet management so that businesses can find ease of mind regarding transportation and fleet logistics.

With a full suite of customizable apps and tools, their platform gives businesses the power to choose how they manage their fleet. With applications such as Hours of Service (HOS), Navigation, Telematics and more, there are many applications that can be bundled into a customized solution that fits the needs of any business.

Deploying automation for greater and faster auditing success

Our Client's HOS application has to be audited yearly or upon the release of a new Electronic Logging Device (ELD) to ensure compliance with regulations as set by respective countries that they operate in. Their software development engineers in test (SDETs) were struggling to maintain the balance between the testing coverage of new application functionality and governmental regulations. In addition, calculations around estimated automated coverage of those regulations were unreliable due to a lack of consistent traceability between manual cases, automation scripts, and regulation requirements.

These issues made it more difficult to estimate the impact to the quality assurance team's bandwidth to support each upcoming audit. It also increased the risk of audit failure as it isn't always known which batch of regulations will be in scope per audit.

Initially our Client's engagement goals were to:

- Establish a QA partner that understands company goals, objectives and needs, with an overall goal of becoming a fully independent team to achieve the desired current and future milestones.
- Understand government regulations and current coverage in different countries across the globe.
- Achieve 100% manual coverage and 60% automation coverage of the audited government regulations.



Ctrl – alt – delight: rolling out enhancements to increase the coverage of audited regulations

Qualitest implemented an iterative process model with two clear and well-defined phases:

- Phase 1 assess the current coverage of regulations and the desired enhancements for coverage traceability.
- Phase 2 implement enhancements and increase coverage of audited regulations.

Phase 1 – assess current coverage of regulations and the desired enhancements.

We undertook deep dives and fact-finding excursions into the Client's existing testing practices and coverage metrics. They gained a detailed understanding of frequently used processes and practices and at the end of this phase we were able to provide a detailed list of milestones and timelines to meet partner goals. Following this, we recommended an overhaul of the existing TestRail management tool use, firstly to enhance its ability to provide traceability via increased fields and labels for all templates currently used, and secondly to provide a method of data gathering via its Restful APIs to create accurate metrics over various aspects of the testing statuses.

Phase 2 - implement enhancements and increase coverage

In this phase, we split our time by covering known gaps in test coverage and introducing enhancements to the current test processes. Both teams worked together to build a strong sense of partnership and trust, and we took it upon ourselves to establish mutual success criteria and processes to alleviate the need for the micromanagement of tasks, as well as reduce bottlenecks and overhead for the existing SDETs.

While we worked on solidifying the enhanced processes, engineers were continuing to convert uncovered regulations into manual tests and then automate existing automatable manual test cases in order to reach the desired automation coverage.

In the middle of this timeline, a new feature outside of government regulations was needed through automation coverage. We worked side-by-side with our partner's SDETs to successfully provide full coverage of the necessary tests while still being able to remain on track for the existing project timeline.



Key benefits

- Reduced potential project blockers by up to 60% and avoided delays while increasing testing quality and known metrics.
- Increased the scalability aspects of multiple testing processes and practices by up to 80%.
- Exceeded targeted testing coverage by 100% with manual test coverage and 80% with automated test coverage.
- Achieved significant cost savings of up to \$40,000 per year with increased automation coverage and process enhancements from year 2 of the project.
- Significantly improved KPIs for the project to ensure product quality which was delivered in an expedited timeframe.
- A huge decrease in issues was achieved through our Client's ELD being successfully audited by government agencies.
- Our Client increased the team size we provided to them to cover additional government regulations so that more of their devices could be included in future audits.

⁶⁶Our Client reduced their potential project blockers by up to 60% and avoided delays while increasing their testing quality and known metrics. **99**



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