KJR est. 1997
Assuring Digital Success

South East Water

CASE STUDY

KJR streamlining software delivery to support digital transformation goals

Project: Integrated test automation framework

KEY OUTCOME 1

Faster, more frequent and confident software releases

KEY OUTCOME 2

Reduced manual testing through scalable automation

KEY OUTCOME 3

Improved reliability across complex integrated systems

BACKGROUND

South East Water is a government-owned retail water corporation committed to supporting healthy and liveable communities by delivering water, sewerage, and recycled water services. South East Water's operational processes are supported by a complex composite patchwork of applications that include: HiAffinity, Maximo, Montage, Pulse (Salesforce), and Digital Utility.

KJR was engaged to support South East Water by validating these integrated processes, analysing business requirements, executing multiple workflows, performing functional verification, and reporting findings to stakeholders.

As part of the KJR team, our responsibilities include understanding business needs, defining automation scope, conducting integration, regression, and functional testing, as well as implementing automation to streamline and enhance testing efficiency.

CHALLENGE

South East Water faced significant challenges in managing project releases within a compressed 4-week timeframe, requiring the execution of over 300 test cases. With Salesforce and Digital Utility platforms undergoing multiple releases annually, each cycle demanded comprehensive regression testing across a network of integrated systems including HiAffinity, Maximo, and SQL Server.

Coordinating test execution, ensuring adequate coverage, and maintaining quality across these complex, interdependent workflows was a substantial task. Relying on manual testing methods for such a high volume of test cases placed considerable strain on internal resources and exposed inefficiencies in the testing process.

The pressure to reduce testing time while maintaining high levels of accuracy and coverage made it increasingly difficult to meet tight release deadlines. These challenges underscored the need for a more efficient, scalable, and automated testing approach to ensure timely, reliable, and high-quality software delivery.

SOLUTION

To address the challenge of executing over 300 test cases within a tight four-week timeframe, KJR proposed and implemented an automation framework using open-source tools. Leveraging Selenium, Robot Framework, Python, and PyCharm, KJR developed a robust and scalable test automation solution tailored to South East Water's needs. Over 70 automated scripts were designed and maintained to align with key business requirements, significantly reducing manual test effort.

This solution enabled faster test execution, improved accuracy, and better resource utilisation. By integrating the automation into the existing workflow, KJR delivered a cost-effective, reduce execution time and efficient approach to support ongoing and future releases.

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DELIVERABLES

- Conducted business requirement analysis to define and develop the automation scope for Salesforce
- Maintained automated test cases in Xray (Jira) to enable traceability and generate automation reports
- Implemented Robot Framework (Python) with Selenium to automate end-to-end manual test scenarios
- 70+ Python scripts covers functional, regression and ETE scenarios
- Completed a proof of concept (POC) using Katalon Studio for Pulse (Salesforce) testing
- Delivered automation reports with accurate labelling using Robot Framework
- Ensured coverage of multiple user roles and access levels to execute various business processes
- Provided stakeholders with a structured ROI analysis to facilitate the advancement of the DU Lentic project into its second phase
- Full documentation and handover for maintainability and reuse
- The framework enabled continuous, reliable validation at scale while embedding testing within the broader DevOps pipeline

CUSTOMER BENEFITS

- Accelerated Release Cycles: With automation support, South East Water can achieve more frequent and efficient software releases, enhancing overall delivery timelines
- Reduced Manual Test Effort for Onboarding: When new resources are added in each release cycle, automation minimises the manual test effort involved in onboarding and testing processes
- Improved Reporting Efficiency: Automated reporting significantly reduces the time required to generate and deliver reports
- Enhanced Accuracy and Reliability: Automated processes yield more precise and consistent outcomes, reducing human error and improving overall quality
- By automating and maintaining over 70 test cases and integrating them into the CI/CD pipeline, South East Water was able to detect issues earlier in the development lifecycle

KEY OUTCOMES

KJR's automation testing framework delivered transformative results for South East Water, enhancing the overall quality, efficiency, and speed of the testing process. By implementing an open-source solution using Robot Framework, Selenium, and Python, KJR enabled rapid and consistent execution of test cases across every release cycle. This allowed South East Water to confidently meet tight deadlines and maintain high delivery standards, even during frequent and complex release schedules.

The shift from manual to automated testing led to substantial time and cost savings. KJR's automated scripts ensured repeatability and accuracy, reducing human error and increasing confidence in test outcomes. By integrating the framework into the CI/CD pipeline, defects were identified and addressed earlier in the development lifecycle—minimising costly rework and improving product stability.

Real-time automated reporting further enhanced visibility and traceability for all stakeholders, enabling faster and more informed decision-making. The framework also supported a wide range of user scenarios and access roles, offering comprehensive test coverage across integrated systems like Salesforce, Digital Utility, and HiAffinity—demonstrating the value KJR brought to South East Water's digital transformation.

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VALUE TO CLIENT

KJR delivered substantial value to South East Water by designing and maintaining over 70 automated test scripts using automation tools, including Robot Framework, Selenium, and Katalon Studio. This approach ensured full alignment with business requirements while providing a highly cost-effective and scalable solution. By leveraging open-source technologies, South East Water avoided expensive licensing fees without compromising on the power or flexibility of the automation framework.

Automation significantly reduced manual effort, accelerated test execution, and improved test accuracy. The integration with Xray (Jira) enabled seamless traceability of test cases to user stories and business requirements, promoting tighter collaboration between development and QA teams and faster resolution of issues. KJR's framework was adaptable to frequent release cycles and evolving business needs, especially for complex, integrated platforms like Salesforce and Digital Utility.

Furthermore, KJR integrated the automation framework into the CI/CD pipeline to enable continuous testing, early defect detection, and improved overall software quality. Automated reporting provided real-time visibility into test progress, enabling informed decision-making and stakeholder transparency. As a result, South East Water experienced faster release cycles, reduced rework, improved quality assurance, and long-term maintainability of test assets—establishing a foundation for sustainable, future-proof testing practices that support South East Water's digital transformation goals.

TOOLS & TECHNOLOGIES

SQL database Server
Digital Utility
GitHub
Selenium
Robot Framework (Python)
Katalon Studio
Salesforce (Pulse)
Digital Utility (Lentic)
Xray (Jira)
PyCharm