functionize

CASE STUDY

Loyalty Program Excellence: **Functionize's Automation Solution for Kognitiv**

> Working with Functionize has really transformed our QA practice at Kognitiv. We went from cringing when UI or code changes were done because of cumbersome and time-consuming processes to welcoming them due to the flexibility and mature self-healing logic that is built into the platform.
>
> We were able to automate areas and applications that previously had none purely due to the ease and simplicity of creating automated tests with Functionize. Test flake is a thing of the past as the AI/ML engine learns and understands our applications under test.
>
> The live debugging and performance monitoring features have been a game-changer for us, enabling us to identify and resolve issues more proactively than ever.
>
> The end result? Reduced time-to-market, improved ROI, and a significant boost in team morale. We couldn't be happier with the outcomes of this collaboration.
>
> **Duncan Anderson**, VP of Quality Assurance

kognitiv.

Enhanced QA Stability
Functionize's AI/ML engine eliminated test flakiness in Kognitiv's QA process.

Low-Code Accessibility
Functionize enabled team members of all skill levels to participate in automation testing.

Real-Time Debugging
The platform offered live performance monitoring and real-time debugging capabilities.

High ROI
Functionize optimized resources, leading to significant cost savings and ROI for Kognitiv.

Boosted Team Morale
The user-friendly platform positively impacted Kognitiv's QA team morale.

Introduction

In the fiercely competitive landscape of loyalty solutions, Kognitiv, a leading Software-as-a-Service (SaaS) provider, embarked on a transformative collaboration with Functionize to level up their testing automation. This case study elaborates on how Functionize's industry-leading platform streamlined Kognitiv's quality assurance (QA) processes.

As Kognitiv sought to address the challenges posed by traditional code-heavy tools, Functionize

emerged as a catalyst for change. The power of AI, intuitive interfaces, and self-healing capabilities unlocked efficiency, reliability, user-friendly automation testing, and collaboration.

Background

Kognitiv is a Software-as-a-Service (SaaS) provider specializing in AI/ML-powered technology solutions that help brands build deeper, more meaningful relationships with customers. Their comprehensive suite of loyalty and data activation products provide insights and automation so brands can deliver enhanced value, personalization and experiences to their customers at scale. Kognitiv uses cutting-edge technology and data-driven insights to help brands make smarter decisions and deliver exceptional customer experiences.

The development process at Kognitiv follows an Agile methodology, specifically employing the Scrum framework to ensure iterative and efficient product development. Their commitment to Agile practices enables them to deliver innovative loyalty solutions in a timely manner to meet market demand.

Kognitiv maintains a dedicated QA team of professionals responsible for ensuring the quality and reliability of their customer engagement and loyalty solutions. The QA team plays a critical role in thoroughly testing and validating the functionality, performance, and usability of Kognitiv's applications. This team collaborates closely with the development teams to identify any issues, ensuring the delivery of high-quality software.

Kognitiv partnered with Functionize to implement an advanced automation testing solution to further optimize their QA processes and deliver exceptional loyalty solutions to their clients. All members of Kognitiv's QA team utilize Functionize for their automation testing needs. Functionize has become the preferred automation testing platform for Kognitiv, providing the necessary tools and capabilities to streamline their QA processes, enhance test efficiency, and improve overall software quality.

Challenges

Kognitiv, having experienced growth through acquisition, faced several pain points in its QA process.

Kognitiv was using various legacy QA tools and struggling with the complexities of Selenium, which required significant effort to maintain. Selenium was their primary automation tool and caused unreliable test results and unstable test execution, making processes inefficient and more time consuming than they needed to be. These inefficiencies further strained the capacity of Kognitiv's experienced automation engineers, which hindered the scalability of their QA efforts. Kognitiv's QA teams were operating at varying levels of automation maturity, with some teams being well-versed in Selenium while others had minimal Selenium automation experience. All of these factors made one thing abundantly clear: Kognitiv needed a unified, scalable automation solution.

The existing framework at Kognitiv was monolithic and lacked the scalability required to support their growing needs. As the company continued to grow, it became evident that relying on dedicated automation teams would not be a sustainable approach for future growth.

Kognitiv sought a new UI automation framework that could address their challenges and scale efficiently without relying on specialized automation teams. Their goal was to adopt a platform that offered ease of automation, allowed for smooth migration of critical tests, facilitated health checks, and replaced their existing API framework.

Functionize's Approach

Kognitiv faced a contrast in the level of automation experience and desired a user-friendly automation solution that didn't heavily rely on coding. Functionize provided a low-code/no-code approach, making it accessible for non-technical team members to write tests and effectively use the platform.

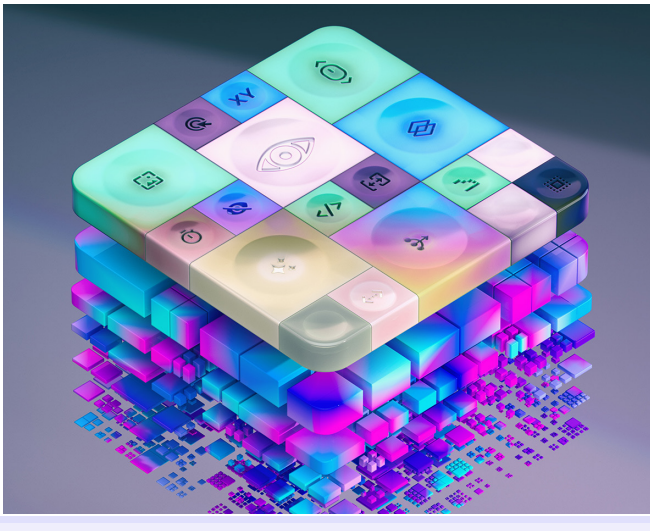
A proof of concept (POC) indicated the successful integration of Functionize into Kognitiv's test environment. With a thorough requirement analysis, design and execution of test cases, and comprehensive reports on the effectiveness of our solution, the POC indicated successful integration of Functionize into Kognitiv's test environment and highlighted improved efficiency, test coverage, and defect identification.

Functionize's solution focused on three key areas:

AI/ML Engine for Test Stability

Functionize's AI/ML engine actively monitored test executions and continuously learned from the patterns observed during testing. When it encountered inconsistent test behavior, the AI/ML engine detected subtle changes in the application and automatically adapted the tests accordingly. This self-healing feature is based on machine learning algorithms that analyze historical test data and identify patterns of successful test executions. By comparing the current test results with the learned patterns, the engine can intelligently determine if a test failure is a genuine bug or a result of environmental or application variations.

The AI/ML engine is particularly powerful because it dynamically adjusts the tests without human intervention. When a test fails due to flakiness, the AI/ML engine identifies the appropriate adjustments based on past successful executions. These adjustments can include modifying wait times, element locators, or interaction sequences, ensuring that the test accurately reflects the desired behavior of the application.

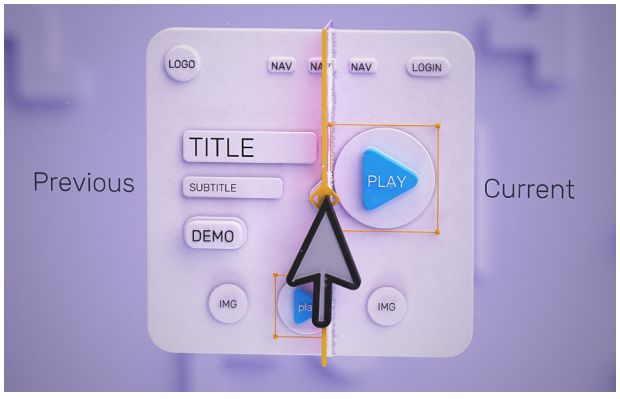


Further, the AI/ML engine also has self-healing capabilities for UI changes. When encountering CSS changes or image/label modifications, the engine dynamically adapts the tests to accommodate these UI changes automatically.

Functionize's AI/ML engine continuously monitors the application under test and learns the expected behavior and visual elements of the UI through historical test data. It analyzes this data and establishes correlations between the tests and the UI elements.

When a UI change occurs, Functionize's AI/ML engine compares the current state of the application's UI with the learned patterns. If it detects discrepancies or mismatches, it intelligently adjusts the test steps to align with the modified UI. This adjustment can involve updating element locators, wait times, or interaction sequences to ensure that the tests accurately reflect the new UI.

Live Debugging and Performance Monitoring



The Functionize platform leverages cloud infrastructure to ensure efficient live debugging. Kognitiv was able to finetune performance parameters and utilize scalable resources, to minimize any potential performance issues that affect live debugging.

Functionize seamlessly integrated with Kognitiv's cloud environment, enabling real-time debugging without compromising performance. The integration allowed for smooth collaboration between Functionize's platform and Kognitiv's application, ensuring that live debugging activities could be carried out effectively.

Further, Functionize's platform provided robust tools and features for troubleshooting and diagnosing issues during live execution. This included detailed error logs, stack traces, and real-time monitoring of application behavior, allowing Kognitiv's QA and development teams to identify and resolve issues promptly.

Functionize's platform also offered performance monitoring capabilities, allowing Kognitiv to track and analyze the performance of their applications during live debugging sessions. This monitoring helped identify any performance bottlenecks or issues, enabling Kognitiv to optimize their application's performance and enhance the overall user experience.

Low-Code/No-Code Testing

The code-heavy nature of most automation tools and the lack of skills for Selenium was a key challenge for Kognitiv. Functionize's platform introduced a low-code/no-code approach to automation testing. This meant that Kognitiv's teams, even without extensive coding skills, could easily create and execute automated tests. Functionize's intuitive user interface with drag-and-drop functionality enabled non-technical team members to write tests effectively, eliminating the need for extensive coding knowledge.

The intuitive design and visual components of Functionize's platform enabled Kognitiv's teams to quickly adapt to the automation testing process and perform test creation, execution, and analysis without the complexities of traditional coding-based tools.

Functionize also supported Kognitiv's teams with enablement and training resources. Documentation, tutorials, and personalized training sessions ensured that Kognitiv's teams had the necessary guidance to leverage the platform effectively.

Functionize's solution provided an easy-to-use system that enabled team members with varying technical backgrounds to write tests independently, streamlining the automation testing process and reducing the reliance on specialized coding expertise.

Measures of Success

Functionize was acknowledged as responsible for several key measures of success at Kognitiv:

Production Monitoring and Health Checks

Functionize enabled Kognitiv to leverage production monitoring and perform health checks at regular intervals. By running checks three times an hour, Kognitiv gained visibility into any potential issues, such as depreciation or latency, without spending time fixing broken tests. This allowed for faster releases and increased confidence in the system's stability.

Smoother Release Process

Kognitiv is transitioning from scheduled quarterly releases to more frequent releases using a continuous deployment model. Using Functionize's automation solution enabled a shift from assumed confidence to known confidence, which improved the overall release process, minimized delays caused by bugs, and ensured smoother rollouts.

Reduced Bug Lifecycle

Functionize helped Kognitiv address the issue of defect leakage by providing visibility into production and tracking metrics. This enabled them to identify and close gaps, decreasing the number of bugs originating from production. With Functionize's automation handling regression, Kognitiv's QA teams could focus on in-sprint testing, resulting in faster bug fixes and a decrease in the bug lifecycle. Functionize's platform improved cycle time for defects, not only in regression but across the board, leading to wider coverage of tests and faster time to market.

ROI driven by Resource Optimization

Functionize's automation solution delivered a significant return on investment (ROI) for Kognitiv. By freeing up time previously spent on regression testing, the QA teams could focus on meaningful work, including testing new development. The company increased their automated test coverage, which allowed them to easily expand on the breadth and depth of the QA test coverage. This "shift left" movement resulted in a reduced reliance on manual testing and more efficient use of their QA professionals time.

Team Morale

Functionize's user-friendly platform and modern technology positively impacted the morale of the QA teams at Kognitiv. The ease of creating automation and the company's investment in advanced tools contributed to employees' career growth and satisfaction. Functionize's solution, in contrast to outdated alternatives, provided a seamless automation experience for the QA professionals.

Summary

Functionize's partnership with Kognitiv proved transformative for their QA processes. Functionize empowered Kognitiv's teams with a low-code/no-code approach to implement automated tests without extensive coding skills. This streamlined the testing process, reduced manual effort, and accelerated time-to-market for new customer loyalty and data activation solutions. Kognitiv's teams were able to focus on higher-value activities, such as enhancing loyalty management system features and optimizing user experiences. The self-healing capabilities of Functionize's AI/ML engine eliminated test flakiness and ensured stability. Live debugging became a seamless experience, and performance monitoring further optimized Kognitiv's applications.

With Functionize's solution, Kognitiv achieved smoother releases, reduced bug lifecycle, and improved return on investment. Moreover, the user-friendly interface and advanced technology positively impacted team morale. Functionize's work with Kognitiv exemplifies how an intelligent automation testing platform can drive success and differentiation in the loyalty solutions space.