KJR est. 1997
Assuring Digital Success

CASE STUDY

Accelerating Government Modernisation Through Automated Regression Testing

AT A GLANCE

Industry

State Government

Challenge

Validate ongoing changes across critical Microsoft Dynamics 365 applications without lengthy manual regression testing

Services

Test Automation, Quality Engineering, Regression Testing

Scale & Complexity

Approximately 400 automated tests across seven applications supporting training contract and apprenticeship management.

Technology Environment

Microsoft Dynamics 365, Power Pages, Playwright, Azure DevOps

Outcome

Reduced regression testing from 2.5-3 weeks of manual effort to a 10-12 hour overnight automated execution

THE CHALLENGE

This large government department was modernising critical business systems used to manage training contracts, apprenticeships and related administrative processes. As legacy applications were replaced with Microsoft Dynamics 365 solutions, the department needed confidence that new releases, platform updates and environment refreshes would not introduce defects into existing functionality.

Manual regression testing was becoming increasingly difficult to sustain. Validating changes across multiple interconnected applications required significant effort from testing teams and risked slowing delivery. The department needed a practical way to maintain quality while supporting an active modernisation program.

Without a more efficient approach, regression testing could consume several weeks for every major release, limiting the ability to respond quickly to change and increasing the risk of issues reaching production environments.

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Why the Customer Chose KJR

The customer selected KJR for its specialist software testing and automation expertise, combined with practical experience supporting large-scale technology transformation programs.

KJR's proven automation frameworks, quality engineering capability and ability to integrate testing into delivery processes provided confidence that regression testing could evolve from a labour-intensive activity into a repeatable, sustainable capability. KJR also brought experience working collaboratively with business and technical stakeholders to ensure automation delivered ongoing operational value.

KJR'S APPROACH

01

Assess

KJR worked closely with the customer's testing teams and business subject matter experts to understand application functionality, business risks and existing regression tests. The most valuable automation opportunities were identified by reviewing existing test assets, requirements and user journeys.

02

Assure

KJR developed an end-to-end regression test suite that used Playwright and a TypeScript automation framework that covered Power Pages and Microsoft Dynamics 365 applications.

The approach focused on validating business processes, calculations and system interactions that required consistent verification following application changes. Scheduled overnight executions were setup in Azure DevOps pipelines to enable repeatable validation following releases, environment refreshes and platform updates.

03

Enable

KJR progressively expanded automation coverage from an initial application to a portfolio of seven application suites. To improve stakeholder visibility, KJR also introduced consolidated reporting that translated technical test results into clear, business-friendly language, better supporting informed release and deployment decisions.

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BUSINESS IMPACT

KJR helped establish a sustainable quality assurance capability that extended well beyond individual project releases.

Automated regression testing provided stakeholders with greater confidence that application changes could be validated consistently and repeatedly, reducing reliance on time-consuming manual testing cycles. Regular automated execution increased visibility of unintended system impacts, enabling issues to be identified earlier and reducing uncertainty around release readiness.

The approach also strengthened the customer's ability to manage ongoing Microsoft Dynamics 365 platform updates and environment refreshes by providing objective evidence of application behaviour before production deployment decisions were made.

OUTCOMES & BENEFITS

- Automated approximately 400 regression tests across seven Microsoft Dynamics 365 application suites.
- Reduced full regression execution from an estimated 2.5-3 weeks of manual testing effort to an automated 10-12 hour overnight run.
- Improved release confidence through repeatable validation of application changes, environment refreshes and platform updates.
- Increased visibility of unintended impacts by regularly identifying issues introduced through code changes.
- Enhanced decision-making through accessible reporting that provided both technical and business stakeholders with clear test outcomes.
- Enabled testing to occur outside normal business hours, improving delivery efficiency and making results available for review at the start of the working day.
- Established a reusable automation capability that continues to support ongoing business-as-usual operations and future application enhancements.

The result was a more efficient, scalable and sustainable approach to assuring the quality of the customer's modernised application portfolio.

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TECHNOLOGY ENVIRONMENT

Microsoft Dynamics 365 • Power Pages • Playwright • TypeScript • Azure DevOps









HOW KJR CAN HELP

Modernising business-critical applications or implementing Microsoft Dynamics 365?

Contact KJR to learn how test automation, quality engineering and independent assurance can reduce delivery risk, accelerate releases and improve confidence in system quality.