



QA ACCELERATION: AUTOMATED IN-SPRINT TESTING FOR UK INSURER

DATAMATICS

Industry:

Insurance

Region:

UK

About the Client:

Our client is a premier global healthcare provider headquartered in the UK, serving over 38 million customers worldwide. With a comprehensive portfolio ranging from insurance coverage to direct health services, the organization operates clinics, dental centers, and hospitals across multiple regions. Their mission: to deliver high-quality, affordable healthcare on a global scale.

Challenges: Testing Bottlenecks & Operational Hurdles

The client utilized an agile development framework with quick in-sprint QA cycles. With their worldwide user base, it was imperative that the application be consistent and responsive across numerous browsers and devices. Unfortunately, the QA process was constrained by a mix of technical limitations and process inefficiencies.

- **Cross-Browser Testing Pressure**

Functional test cases needed to be run on different browsers in the same sprint, which put the QA timeline into pressure. Low bandwidth did not allow for the expansion of testing activities without giving up coverage or speed.

- **Unstable API Environment**

Frequent API inaccessibility disrupted test execution and caused false failures. Teams had to spend considerable time identifying whether issues were due to defects or environment instability.

- **Test Machine Bottlenecks**

Test automation machines were often blocked during execution, limiting availability for other testing needs. This created scheduling delays and restricted parallel test runs.

- **Manual Test Data Generation**

Test data was entered manually via a legacy desktop-based backend system. The task was cumbersome and prone to errors, resulting in inconsistencies and extended test preparation cycles.

Solution: Modernizing QA with Scalable Test Automation

To address the above issues, Datamatics QA team came up with a scalable and resilient automation strategy. The objective was to speed up in-sprint testing, minimize manual dependencies, and enhance test coverage on browsers and APIs. Blending of contemporary tools, frameworks, and CI/CD integration assisted in simplification of the entire QA process.

- **Unified Automation Framework**

An end-to-end automation framework was developed using EasyRepro, Selenium, and RestSharp to ensure UI, API, and data-level verifications. This standardized testing across the various layers of the application and minimized manual intervention.

- **Automated Test Data Generation**

Test data creation was fully automated, eliminating the dependency on the legacy backend system. This significantly reduced test preparation time and ensured data consistency across test scenarios.

- **Cross-Browser Execution with BrowserStack**

In-sprint test cases were executed across multiple browsers using BrowserStack. This enabled rapid cross-browser validation without needing dedicated local infrastructure.

- **Visual Testing Implementation**

Visual testing was integrated to detect UI inconsistencies across browsers. This added an extra layer of quality assurance for responsive design and layout issues.

- **Azure DevOps Pipeline with Parallel Execution**

A CI/CD pipeline was created in Azure DevOps with parallel execution and automatic re-runs for failed tests. This reduced total test run time and ensured reliability in test outcomes.

- **Nightly API Pack Execution**

A nightly execution schedule was implemented for the API test pack. This allowed early detection of backend issues and ensured API stability over time.

- **Continuous Sanity Testing Post-Deployment**

Sanity test packs were triggered automatically after every build deployment. This helped identify critical failures early and maintained release quality in fast-paced sprint cycles.

The Impact



~50% reduction in in-sprint testing cycle time



~80% effort savings in test data creation



~70% reduction in regression testing efforts through an optimized automation approach



Daily execution of the Sanity pack enabled early detection of system/API failures

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