indium
Make Technology Work

ACCELERATING APP DEVELOPMENT LIFECYCLE FOR COMPLEX RETAIL APPLICATIONS BY ENFORCING CRITICAL AND INCLUSIVE TESTING METHODS

APPLICATION

Web based retail application suite

SERVICES

- Functional testing
- Regression Automation testing
- Performance testing Accessibility
- Validations (WCAG 2.0 Compliance)
- Database Testing
- ETL Testing
- API Testing

TOOLS

- Regression Automation – Selenium and iSAFE (framework)
- QTP/UFT
- Performance Testing – HP Performance Center
- ADA (Accessibility Testing) – JAWS 17.0 (Commercial tool)
- API – Soap UI, Postman
- Agile Testing: JIRA (Defect Management)

KEY HIGHLIGHTS

- Automated 60% of manual test cases easing the Test Life Cycle operations
- Achieved 99% DRE (Defect Removal Efficiency) in every production release

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APP DEVELOPMENT LIFECYCLE

CLIENT

Our client is a California-based Retail giant primarily into men's apparel business. The company sells a large collection of brands online and also offers apparel online rental services. They are the Top 100 Omni-channel Retailers recognized by Total Retail. With a global business model, their online retail application is global and inclusive of sophisticated shopping and enterprise features.

BUSINESS SITUATION

Background: The client's application primarily runs two workflows: Retail and Rental with typical e-commerce model. The extensive part of their business is the Omni-channel. The client has evolving strategies in the Omni-channel personalization space: buy online, pick up in-store; shared cart; loyalty points earned and redeemed across channels; multiple customer service channels; price consistency across channels.

Their business operations are heavily dependent on application software from supply chain management, e-commerce, Point of Sale (PoS) Systems to dynamically changing inventory and campaign management systems.

Some of the use cases we handled for QA

- Daily promotion updates in Content Management System (CMS) and its response (validations) in live product pages, banner pages, interactive application of promotions in the cart etc. The frequency of promotion updates typically varies 2 times in a week – daily during festive periods.
- New inventory updates and Product Validations.
- Omni channel governance: enabling channels at any point in the customer buying journey and validations across touch points.
- Complete revamp of existing pages/ functionalities.
- PoS validations.
- Reporting and Dashboards.

Business Challenge: With a progressive application at hand, the release cycles were at stake. The application needed to be updated and released within shorter sprints with total quality.

Key Challenges:
- 1 - Increase App Quality
- 2 - Achieve Time-to-Market goals
- 3 - Optimize the Dev Life Cycle
- 4 - Accessibility needs

In view of these challenges, the client required an experienced testing partner to recommend appropriate test methods and provide seamless testing support to drive their retail operations.

SOLUTION HIGHLIGHTS

Indium's Team conducted a due diligence of the requirements and prepared a Test Strategy report covering:
- Workflow analysis for Retail and Rental scenarios : User Journeys, Quality Gates, Omni-channel touch points.
- Functionality – Scope of Testing - Vulnerability Score - Frequency of Updates to each functionality - Business Impact Matrix.
- Requirement Traceability Matrix including dependent scenarios, priority, severity scores.

Test Automation Process
- Prepare Test Cases and Test Scripts.
- Test Feasibility and Execution Priority Report.
- Automation plan and scheduling.
- Test Case Traceability: Manual and Automation scope.
- Manual Pilot Testing of Test Scripts.
- Test Automation Execution, Validation and Reporting.

Indium's ADA - Accessibility Validation recommendations were implemented to client's application even before the Certified Quality Board's assessment is done. This led to a considerable saving of client's budget on Accessibility Testing.

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TEST METRICS

- 200+ critical business scenarios were automated
- 900+ defects were found out of which 160 were show stoppers

Specialized Testing
- iSAFE – Embed the whole test automation process over Indium's IP Accelerator iSAFE that drives Test Automation process 5x faster.
- ETL Testing for Business Intelligence reports.
- For new UI changes, Indium's team reported industry standard Accessibility Validations.

Continuous improvement
- Ongoing maintenance of automated test scripts.
- Continuously improve scripts in line with evolving functional changes.
- Monitor test scripts execution time periodically and optimize efforts.

VALUE ADDITIONS

- Participated in Business Understanding and Time-to-market goals of the client to deliver bug-free functionality releases based on Business Strategy.
- SME: Technology/Workflow Recommendations.
  - Indium proposed to modernise the Rental division workflow by implementing a CMS.
  - Proposed and executed API Automation which was manually conducted and contributed to 15% of overall Test Effort.
- Automated 60% of manual test cases easing the Test Life Cycle operations.
- Achieved 99% DRE (Defect Removal Efficiency) in every production release.
- Indium's ADA - Accessibility Validation recommendations were implemented to client's application even before the Certified Quality Board's assessment is done. This led to a considerable saving of client's budget on Accessibility Testing.
- Process Engineering – Proposed process changes to Development Life Cycle that improved production release efficiency by 15-20%.
- Customized reports for management review and regular sprint reviews.

About Indium

Indium is a Digital Engineering Services leader and Full Spectrum Integrator that helps customers embrace and navigate the Cloud-native world with Certainty. With deep expertise across Applications, Data & Analytics, AI, DevOps, Security and Digital Assurance we "Make technology work" and accelerate business value, while adding scale and velocity to customer's digital journey on AWS.

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