CASE STUDY

KJR

Assuring Digital Success

KJRs role in transforming Pathology Services

Project: Laboratory Information SystemTest Management Extension

KEY OUTCOME 1

Improved competitiveness in the market - first cloud-based, specimen-centric LIS in Australia

KEY OUTCOME 2

NATA and PGA accreditation, ensuring compliance with industry standards

KEY OUTCOME 3

Improved services to clients, including doctors & patients, for collection, testing, reporting, & billing

BACKGROUND

This major healthcare provider was replacing its current laboratory information system (LIS), transitioning from Kestral PLS to CIRDAN's Ultra product to future-proof the system and stay competitive in the market.

The engagement included manual testing, performance testing, test automation, overall test management, and handling patient data in various test environments. The project sponsor was the Manager of Pathology in the provider's Digital Technology & Innovation division.

CHALLENGE

The primary challenges faced in the project was the complex nature of the LIS (Laboratory Information System) Program, the overall prod and non-prod environment landscape, and the maturity of the provider's change and release management. There was a need for early, in-depth discovery of these complexities and identification of product risks.

The project was hampered by an unstable non-production environment with multiple single points of failure. Other internal projects competing for the same resources and non-prod systems created delays and rework. There were insufficient non-prod environments to provide a proper System Development Lifecycle (SDLC). This caused delays in LIS testing and the loss of extensive test data.

There was also a lack of sufficient non-prod environments, resulting in limited inter-departmental or inter-lab testing.

There were no system requirements documented. Functionality was developed through collaboration between project SMEs, lab superusers, and supplier SMEs. This made it difficult to ensure proper traceability between test cases & system requirements. Superusers, who were experts in their specialties but not testing, initially attempted exhaustive testing without proper test case prioritisation.

SOLUTION

To address the challenges, the KJR Project team implemented several solutions -

- The KJR Test Manager developed a program test strategy and test methodology that reflected the nature of each workstream, the development methodology, identified risks and requirements, test environments, and change and release processes. They also provided appropriate business representative/tester training for iterative development, requirements gathering, and testing cycles.
- A test case framework with prioritised test cases based on risk was established. Additionally, a test management tool was implemented to ensure end-to-end traceability, including functional requirements, design decisions, product risks, test cases, multiple test executions, defect management, and reporting.
- The Project team filtered out sensitive data from the integrated LIS test environment by adding whitelists, creating test patients, and enforcing a test patient naming convention.
- An appropriate non-prod environment was established by the team, allowing for multiple concurrent projects, emergency fixes, and data integrity.

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SOLUTION

Communication and trust between different organisational departments, particularly the Digital Technology & Innovation division and the Business, were also emphasised. The project expanded LIS automation efforts based on an automation framework that was relatively "vendor agnostic" and focused on workflows that were good automation candidates.

The project highlighted the importance of establishing trust and communication between different organisational departments, particularly DTI and the Business. Effective communication and collaboration were crucial for the success of the project.

DELIVERABLES

- Program test strategy, test methodology & test plans
- Business representative/tester training
- Test case framework with prioritised test cases
- Test management tool for end-to-end traceability
- Establishment of an appropriate non-prod environment
- Expansion of LIS automation efforts
- User Acceptance Testing & Product Verification Testing

KEY OUTCOMES

- Delivery of a replacement pathology system using CIRDAN's Ultra product
- Improved version of a Pre-analytical Management Solution (PAMS) from Surity
- Improved future-proofing and competitiveness in the market
- Provision of services to clients, including doctors and patients, for collection, testing, reporting, and billing
- NATA accreditation and PGA accreditation
- Prioritisation of test cases into high, medium, and low categories
- Identification and closure of over 3,100 bugs
- Execution of approximately 9,000 test cases including Regression and UAT test cases
- Improved communication and trust between departments

VALUE TO CLIENT

The project's outcomes have provided this major healthcare provider with a modern and future-proofed pathology system. The new system is the first cloud-based, specimen-centric LIS in Australia which will allow the customer to stay competitive in the market and provide improved services to their clients, including doctors and patients.

The project also achieved NATA accreditation and PGA accreditation, ensuring compliance with industry standards. The prioritisation of test cases and bug identification/closure have helped improve the overall quality and stability of the system.

TOOLS & TECHNOLOGIES

Jira, Confluence, Zephyr, PostMan, HL7 Tools & Interfaces, CIRDAN Ultra, Surity PAMS