

Project Case Study

Implementation of a tailored electronic Research Request Submission Process (supporting their LabWare 7 LIMS) at a global Biopharmaceutical Company

Situation

A global research-based biopharmaceutical company focused on the discovery, development, and commercialization of innovative medicines needed a way to streamline the sample login process for Research requests. Today, paper forms are used to manage incoming research samples prior to laboratory login, and those forms serve as the request media. LabWare LIMS is used within the lab for sample and request tracking, analysis and results capture, reporting, and full electronic audit trail. The use of paper forms resulted in critical research requests getting lost, incomplete data on the forms, broken chain-of-custody, transcription errors, and created a bottleneck in the overall research process. Without expanding expensive LIMS licenses, the client needed a way to serve its “customers of the lab” by providing a real-time, interactive electronic means of submitting requests, make updates, and provide better visibility into their research requests.

CSols, Inc., a premier laboratory informatics consultancy and a LabWare partner, was engaged to lead the development and implementation of this functionality around LabWare 7 LIMS. CSols was selected due to our LabWare expertise, industry experience, knowledge of manufacturing and laboratory processes, regulatory expertise, and proven track record of delivering quality solutions under tight timelines.

Objectives

The key objective of this project was to develop an interactive electronic research request form which would be embraced by the end-user research community, while keeping costs to a minimum. The solution needed to fit within the client’s IT infrastructure, to be supportable over the long-term, and adaptable to support future needs. Given the global reach of this system, the solution needed to be web-based and accessible via mobile devices.

Challenges

With only minimally defined requirements, CSols engaged key stakeholders, including end-users, to ascertain the best solution for the client. Iterative review sessions provided immediate feedback to ensure user functionality and adoption. Another challenge was to develop technology independent of LabWare (.Net, MVC, C#, and Oracle 11g), while leveraging out-of-the-box LabWare 7 functionality such as Test Lists, Address Book, stored images as attachments.

PROJECT AT A GLANCE

BUSINESS SECTOR:
Biopharmaceutical

INFORMATICS SYSTEM:
LabWare 7 LIMS

SERVICE OFFERING:
Business Analyst Services
Implementation Services

ELEMENTS:
1 Site
1 Labs
4 Months
1 CSols Team Members

CSols' Role in the Solution

CSols configured LabWare LIMS 7 to utilize out-of-the-box functionality to meet the needs of the research group. CSols provided recommendations for implementation strategies, developed business processes around unused LabWare capabilities, and designed visual workflows to bring it all together. CSols also developed an external tool to interact with LabWare LIMS.

This effort included the following key tasks and deliverables:

- Engaging multiple stakeholders representing IT, Science/End-user community, and the Business to understand functional requirements, and work within IT constraints.
- Providing interactive web interface that leverages both keyboard and mouse navigation (including drop-down fields, radio-buttons, Boolean queries, and context sensitive lists) real-time database interaction, and error messaging to ensure end-user acceptance.
- Producing a Web-based solution which lowered TCO for global deployment, ease of changes & roll-out
- Allowing seamless user authentication to streamline the request process, whereby eliminating needless steps for the end-user.
- Eliminating the need for additional LabWare software licensing
- Producing meaningful Visual Workflows that ensure the accessibility of key data relevant to end-users and remove unnecessary data.
- Leveraging .Net, MVC, C#, and Oracle 11g technologies, which are within the client's IT standards, and ensure long-term support.
- The utilization of software development best practices including error checking, messaging, and consistent data conventions to improve standards.

Benefits of the Solution

- More streamlined electronic request processing to increases accuracy and reduces bottlenecks.
- Elimination of paper-based media for managing research requests - no more lost forms or requests
- More complete electronic chain-of-custody and audit trail of requests.
- Improved customer satisfaction by giving research community more effective way to communicate and increased visibility of laboratory data.
- Greater utility from LabWare 7 LIMS investment by leveraging out-of-the-box functionality without expansion of licensing.
- Leveraged state-of-the-art technologies for long-term IT support and growth.
- Provides a solid technology foundation for future enhancements (e.g. auto e-mail notification).