

Automated Requisition and Reporting System

CASE STUDY: Diagnostic System

Client

The Client is a local independent laboratory whose mission is to provide their clients with the best local laboratory services and expertise through comprehensive testing of pathology, cytology, and molecular specimens.

Opportunity

The Client wanted to automate its paper-based requisitioning and reporting process in order to eliminate the use of multiple systems required for patient demographics and the filing of test results, as well as enhance the clinic to lab interface for more expedient exchange of data.

Solution

The unique requirements for these systems required the development of a thick-client application that is tightly integrated with clinic systems yet utilizes a web-based messaging component to enhance the clinic-to-laboratory interface. The system is designed to be an extension of the physician's desktop and to integrate with Patient Management Systems (PMS) and Electronic Medical Records Systems (EMRS) using HL7 communication protocols.

The messaging interface facilitates the exchange of specimen data as well as the provision of test results as soon as they are available. The PMS interface is used to obtain accurate and complete patient information when requisitioning tests. The EMRS interface inserts the test results directly into the patient file. A unique design aspect of the system allows it to operate independently if either the PMS or EMRS are not available. The application contains all appropriate security measures to ensure HIPAA compliance.

Technology

The application is written in Java and utilizes a MySQL data base. Open Source components are utilized wherever possible to help mitigate initial and recurring costs. The open source components include: JBoss, Tomcat, Jasper reports and JORAM for JMS. All external communications interfaces are HL7 compliant.

Benefits

These systems eliminate much of lab's manual effort to follow-up on incomplete or inaccurate requisitions. Clinics using this software eliminate the use of paper-based forms requisitioning and achieve quicker results reports in all cases. Integration with front and back-end systems reduces inaccurate or incomplete test reports.

