

# Automated Analyzer-to-LIS Interface



## Background

The client had a homegrown Laboratory Information System (LIS) and needed interfaces to new instruments and better interface functionality. Since their homegrown LIS was decades old, the original team was long gone. Since the LIS was homegrown, they could not buy off-the-shelf software. They came to M+H because they knew that we understand medical information systems, we can develop software in a variety of environments and we can meet the rigorous standards of health care data handling.

## Business Challenge

Because the instrument interface has to fit seamlessly into the existing workflow and be used by a med tech who also uses other legacy interfaces, the new user interface had to be similar to existing legacy user interfaces.

The homegrown LIS was 1970s technology and the legacy instrument interfaces were 1980s technology, so we could not expect the users to be competent with a mouse or comfortable with a GUI.

In decades that had passed since the legacy interfaces were created, many features had become standard which were not in the legacy instrument interfaces, so we were asked to add modern functionality (auto-verification, auditing, process support) to the legacy interfaces without causing too much user culture shock.

## Solution

We created a Web UI which was only gently graphically-oriented. We created background processes on a Unix server which mimicked the MS-DOS communications of their existing interfaces. We added a supervisor-controlled auto-verification system with a validated rule set. The rule set was validated using a test bed we created; this validation system became the basis of the audit system after go-live. We used a real-time duplicate data stream to run in parallel and allow fallback to a legacy interface at any time during validation.

## Results

The result was a safe and rapid transitional step from 1980s, MS-DOS-based interfaces to 2000s, Web-based interfaces. This project allowed the client's staff to become comfortable with GUIs and auto-verification and real-time process support, all of which helped pave the way for the eventual decommissioning of their homegrown LIS in favor of a commercial, off-the-shelf system.