CASE STUDY: DEVELOPMENT **Location:** St. Louis, MO

sketch development
Better Teams // Better Software

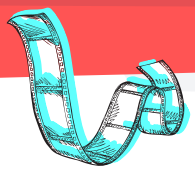
Global Diagnostic Company Gets Automated

A world leader in the field of *in vitro* diagnostics engaged Sketch to build an automated installer for updating the operating system and software of bacteria testing devices used in clinical applications.

> "Great curiosity, passion, and a strong focus on delivering a solution that just works. Really been a pleasure working with Sketch!"
>
> — **Senior Director, Software Engineering, Microbiology R&D**
> *Biotechnology*

TECHNOLOGIES BEING LEVERAGED INCLUDE:

Programming skills: PowerShell development on Windows



CHALLENGE

The Company came to Sketch with a problem: the current process for updating their clinical testing devices is manual, entails many steps (mostly undocumented), and is inherently error prone. Exacerbating the situation; the only person that knows the manual installation process has taken another position. Even if someone else were to be trained in the manual steps, the process still represents a single point of failure. Making matters worse, when something goes wrong [often] during the manual installation process, the entire process must be started again from the beginning.

If that wasn't bad enough, the existing process for building the devices' base image takes two full days to complete; it installs six different software packages, includes at least 10 reboots, and makes Windows configuration updates.

What's more, the manual process is done quarterly to accommodate major builds, plus another twenty more times a year to create hot fixes. The Company needs a new way to address their needs.

SOLUTION

Knowing the key implementor's departure was imminent, the Company attempted to automate certain steps in the process. This exercise led the Company to believe that automating the installation process end-to-end might not be feasible or even possible. At Sketch, we took this as "Challenge Accepted!"

The engagement kicked off with several days spent shadowing the individual implementing the manual steps. This allowed for us to build full documentation of the process. Once it was understood how the installation worked, Sketch developers were able to pinpoint steps that could be eliminated as well as to create discrete automations that significantly reduced the number of required system reboots.

To deliver the automation solution to the Company in a timely manner, Sketch leveraged their creativity to move the development of this automation into a virtual environment. Doing so shortened the feedback cycles for the developers and allowed frequent demonstrations of progress to the client. The delivered solution now includes two main benefits. Firstly, it provides clear status tracking and logging. Secondly, it includes an alerting system that, should an error arise in the automation, it pinpoints the section of code where the required fix will need to be addressed.

RESULTS

At the end of the ninety-day engagement, a manual, error-prone, 100-step, multi-day process was reduced to a single button push that no longer required an individual to oversee (or run) a manual process. Working in an iterative fashion with tight feedback loops the Sketch team was able to show progress – even at two weeks into the engagement. The Company shared that Sketch's collaborative approach, fresh insights and curiosity helped them to see other ways of getting things done and felt their group improved as a direct result of our working together.