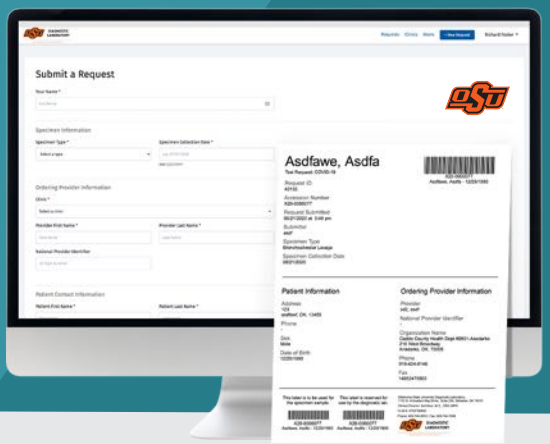
HEALTHCARE AND HUMAN SERVICES

MODERNIZING LEGACY SYSTEMS TO ACCELERATE COVID-19 TESTING

SUCCESS STORY

The rapid spread of coronavirus stressed the capacity of OSU's diagnostic laboratory to keep pace with the crushing demand for COVID-19 testing. OSU reached out to ITX to modernize the lab's legacy system. ITX built an online portal that interfaces seamlessly with the legacy system's custom API. The new automated system helps healthcare clinics expedite COVID-19 test requisitions and dramatically reduces the requisition-to-results cycle time from 24 to 18 hours while processing more than 63% more tests in the first 6 months post-launch.



PERFORMANCE: 6 MONTHS POST-LAUNCH

↑ 63%

INCREASE IN COVID-19 TEST REQUISITIONS

Successfully processed more than 125,000 COVID-19 test requisitions.

↓ 25%

DECREASE IN REQUISITION-TO-RESULT TIME

Accelerated the requisition-to-result time by 25% to 18 down from 24 hours – delivering life-saving benefit to the communities they serve.

MEET THE CLIENT

The Oklahoma State University Diagnostic Laboratory is a partnership between OSU-Medicine in Tulsa, the OSU College of Veterinary Medicine, and the Office of the Vice President for Research in Stillwater. Thanks to the partnership with OSU Medicine, the lab has become CLIA certified to conduct human diagnostic testing. Currently, human testing is specific to the COVID-19 virus.

FEEDBACK

The portal has definitely created efficiencies. Before we went live, every day we were dealing with dozens of requests to correct reports with either incorrect or mismatched information due to human data entry errors. We now deal with maybe 15 or so per week. And the addition of the barcode has reduced intake time by 70%. Obviously a huge benefit!

— Amy M. Brown, Ph.D., PMP | Director of Research Programs, Oklahoma State University

GOAL

Modernize the legacy system at OSU's diagnostic laboratory; replace the manual process with a fully automated, online portal that accelerates the laboratory's capacity to process the surge in COVID-19 tests quickly, securely, and with smallest margin of error.

STRATEGY

Through a comprehensive Discovery Phase, ITX identified client pain points throughout the requisition process. ITX architects addressed critical user workflows within the underlying infrastructure. With lives at risk, time was of the essence in delivering an effective solution. Also top of mind were protecting patient data and ensuring regulatory (HIPAA) compliance.

TOGETHER, WE IDENTIFIED FOUR CRITICAL PRODUCT REQUIREMENTS:

Architecture | Encryption | HIPAA Compliance | UX Design

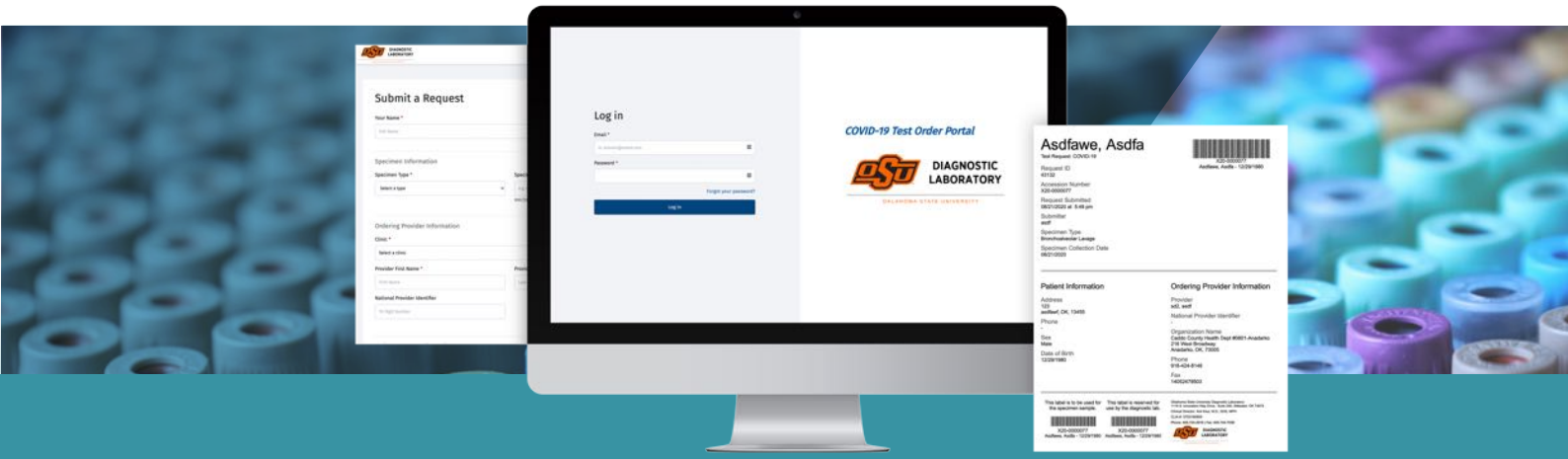
UNDERSTAND THE PROBLEM

- Laboratory technicians prepared COVID-19 testing requisitions by hand; delivery of samples to a 3rd-party laboratory vendor took too long.
- Healthcare clinics lacked the system needed to push test requisitions into their own laboratory software.
- No central repository existed to securely store test submissions and results.

IMPLEMENT TARGETED SOLUTIONS

- ITX architects crafted a system infrastructure that supports and facilitates user workflows while ensuring future scalability and extensibility.
- Development team vaulted secrets outside the codebase to protect sensitive information.

  Online portal interfaces with OSU's existing API to expedite notification of test results.
- To protect patient data, ITX coders encrypted sensitive PII data and login credentials.
- We also used an automated auditing platform to ensure HIPAA compliance with the infrastructure, including assuring the encryption of logs, strong authentication of admin users using MFA, encryption of disks and other key details.



RESULTS

- ITX replaced OSU's legacy system with an interactive online portal that streamlines the submission of COVID-19 requisitions.
- In 6 months post-launch, OSU successfully processed more than 125,000 COVID-19 test requisitions – an increase of 63%.
- By accelerating the requisition-to-result timeline 33% OSU's newly modernized system delivers life-saving benefit to the communities they serve.

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