



SUCCESS STORY HEALTHCARE

BIOTECH LEADER TAKES VISION CARE AND TREATMENT MOBILE

Apexon implements native test automation for speed and quality



This global biotech leader is a healthcare pioneer, recognized for creating innovative medicines and diagnostic tests that help millions of patients around the world.

From precise diagnosis to targeted therapy, this company differentiates itself through innovation in testing efficiency and medical value. With a strong belief that early and accurate diagnosis is essential to maintaining health, preventing disease, and finding effective treatments and cures, digital health solutions have become a huge focus.



**FOUNDED IN 1896
IN SWITZERLAND**



**THE WORLD'S LARGEST
BIOTECH COMPANY**



**17 BIOPHARMACEUTICALS
ON THE MARKET**



**A LEADING PROVIDER OF
CANCER TREATMENTS**



The company engaged Apexon and its expertise in digital healthcare in 2020 to help it validate the effectiveness of a line of therapy for vision-related diseases.

The project involved quality engineering related to the development of Software as a Medical Device (SaMD). The goal was to build a companion mobile application to assist with both accurate diagnosis of vision health problems and a feedback loop to the care provider highlighting the proper line of treatment.

THE RESULTS

KEY OUTCOMES



40% IMPROVEMENT SPEED

Of automated test case execution



600+ TEST CASES AUTOMATED

In 8 weeks using mobile native framework



AUTOMATED CLOUD API TEST CASES

82% out of >200 cloud API test cases were automated

OUR METHODOLOGY

THE DIGITAL LIFECYCLE

Apexon works with companies across the digital lifecycle.



GO DIGITAL

LAUNCH & EXPERIMENT

Enable digital adoption in a quick, and agile manner

Apexon began by stabilizing the endpoints on both dev and test environments and building in encryption and other security measures.



BE DIGITAL

AUTOMATE & ACCELERATE

Build digital infrastructure and foundation for enterprises to scale

Apexon team brought in Native Test Automation for the mobile apps which helped increase automated test execution time by ~40%.



EVOLVE DIGITAL

BE INTELLIGENT & AUTONOMOUS

Leverage data engineering to make strategic decisions and get digital right every time

Apexon deployed end-to-end testing framework and an SDK for new features which also logged audit trails.

THE CHALLENGE

TO OVERCOME PROJECT OBSTACLES

The company had a few challenges to overcome before it could achieve the comprehensive and compliant SaMD it envisioned:



Low cost and fast development

Rapid and cost-effective development was needed, while ensuring the solution was highly scalable.



Logging test case results

As an FDA-regulated product, test case results needed to be logged at a test case step level.



Collecting data via app interaction from users

Relevant and accurate data on effectiveness of medication had to be collected solely through human interaction via the app.

THE SOLUTION

UTILISING BEST PRACTICES

Apexon was brought in to help develop the mobile app and to ensure end-to-end quality and security from the app to the cloud on the backend.

Previous experience in this domain enabled Apexon to build in best practices and add value to this Agile project from the start.

The outputs from the engagement included:



COMPANION MOBILE APP

Development support, which included ensuring that Protected Health Information (PHI) for data security was encrypted for patient data.



AUDIO TOUCH FEEDBACK

Implemented audio touch feedback for vision eye test assessment and dynamic test guide.



ARCHITECTURE DESIGN

Architecture design for companion mobile application and an SDK for new features.



BACKEND ARCHITECTURE

Architecture for logging Audit Trails and external ID authentication with backend platform.



CONTINUOUS INTEGRATION PIPELINE

Set up a continuous integration pipeline for faster cycle time (daily execution) and early vulnerability / bug detection.



TEST CASE RESULTS LOG

Logging of test case results at every step ensured FDA compliance.



TEST AUTOMATION FRAMEWORK

Mobile native test automation framework for optimal test execution speed for over 600 test cases with improved reliability of test result (Reduced flakiness).



Apexon is a pure-play digital engineering services firm focused on helping companies accelerate their digital initiatives from strategy and planning through execution. We leverage deep technical expertise, Agile methodologies and data-driven intelligence to modernize systems of engagement and simplify human/tech interaction.

We deliver custom solutions that meet customers' technology needs wherever they are in their digital lifecycle. Backed by Goldman Sachs and Everstone Capital, Apexon works with both large enterprises and emerging innovators – putting digital to work to enable new products and business models, engage with customers in new ways, and create sustainable competitive differentiation.

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FEELING SOCIAL?

