



# UX Enhancement & Cross-platform Optimization of Healthcare Application

Digital  
Services

Success Story

## Status Quo

The client is a health-tech firm which through its Web, iOS & Android apps enables patient to play a more active role in their personal healthcare.

**The App:** In addition to providing detailed information, availability & booking of testing centers and physicians around the patient, the app also serves as a portal for test results, immediate observations, technician's comments, physician/ doctor's consultations etc. so the patient finds it easy and organized to actively monitor his/her health.

## Overview

The client commissioned Indium to upgrade the legacy app to improve performance even as the user base increases, cross-platform harmonization to leverage existing back-end and incorporate upgraded features and services. This was achieved by decoupling the front-end and back-end, converting the front end from C# to Vue JS and developing additional functionality/ features into Vue JS and optimizing the back-end code.

## Business Challenge

- Given the rapid growth in number of active users and data volume, the client's architecture was increasingly facing severe scalability and performance issues
- New features were conceptualized to provide the customers a better user experience and it needed to be updated in the Web application
- To meet growth demands, the architecture needed to be modified so that the exiting back-end can be leveraged for the same app to be developed on other platforms (web and android)

As a complication, the client's prior architecture closely bound the back-end to the front-end making it difficult to leverage the existing back-end on new platforms such as Android and Web. Additionally, the client's various user groups (technicians, customers, physicians etc.) each had specific user permissions, accessed different views, and leveraged different functionality within the app.

Enabling the access of various data fields, functionalities etc. to specific user groups, coupled with years of patchwork software updates created a needlessly complicated front and back-end with performance bottlenecks and loose ends which could be exploited to compromise the privacy of its users.

## The Requirement

- Decoupling the front-end and back-end
- Converting the front-end from C# to Vue JS
- Developing the additional functionality/ features in Vue JS
- Optimizing the back-end code
- Part 2 of the project entailed building the Android and Web versions of the iOS App

## Approach & Implementation

**Migration:** Client wanted to encourage their users to use their application through mobile apps and they found their current tightly bound MVC (Model View Control) application not very efficient for the mobile users. The tightly bound MVC used C#, jQuery and .NET as its components.

### Business

Product Development

### Domain

Healthcare

### Tools

Material Design, Vue JS, C#, jQuery, .NET

### Key Highlights

- Streamlined back-end to enable cross-platform fluidity
- Redesigned architecture and ported front-end to Vue JS
- Developed new features and enriched UX
- Performance and security enhancements

Indium efficiently migrated the back-end by developing C# for web services and using Vue JS in the front-end with HTTP API calls to connect C# web services back-end. The team was able to make a successful migration despite the challenges faced while migrating from jQuery to Vue JS.

## Other UX/ UI Enhancements

**Reusable Component:** The Indium team were also able to create and add a Reusable Component feature using Vue JS in the client's framework which cut down the time for the development of each page to one tenth of the original time. Additionally, the reduction in code improved the app's performance particularly in high load times.

**Material Design:** Applying Material Design UI to the client's app (as opposed to the existing Bootstrap) made the app more fluid and visually appealing.

**Enhanced Dashboard for Admins:** Developed Dashboard UI displaying metrics and KPIS such as Total Registered Users, Patients count, newly registered users for the current month, total Lab Orders received till date etc. The dashboard also included an analytics functionality by which the admin could slice and dice the data to reveal valuable insights.

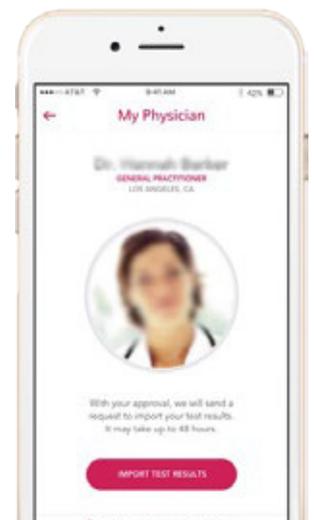
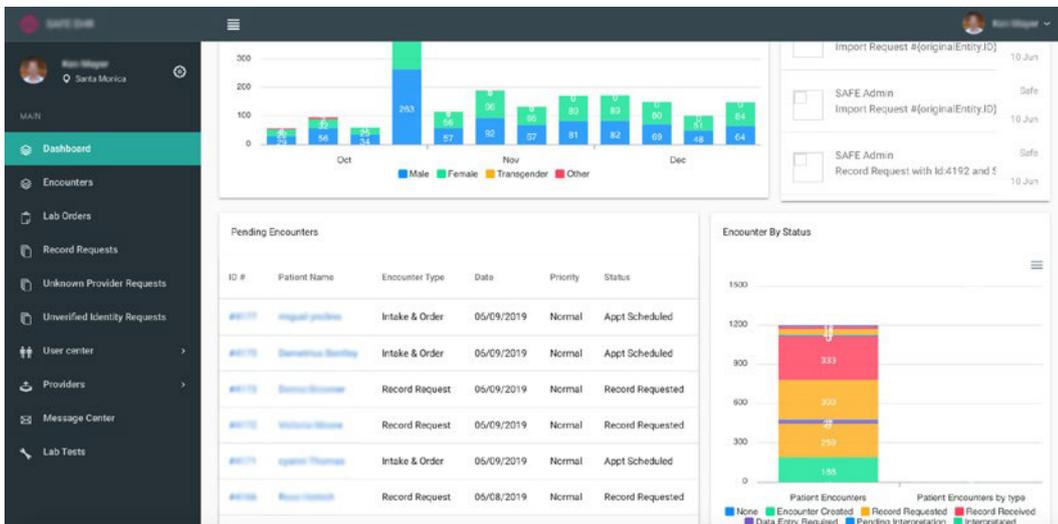
**Other Benefits of Migrating to Vue JS:** Developed messaging & recent activity widgets using Vue components which enabled user specific profile pages. The team also created fixed Layout with Sidebar, top navbar and content area at the center using Vue Templating.



## Business Impact

The major benefits the client achieved through its engagement included

- The app was upgraded into an architecture which made it freely scalable as the userbase and data volumes increase with no effect on performance. This eliminated wait time to import the patient reports into the application.
- The UX/ UI was enhanced to make the experience much smoother, snappier and visually appealing.
- New functionality was added which lowered development costs and added new features for the app's various users.
- The back-end was streamlined, made lighter and more secure, with app compatibility on different platforms.
- Enabled monitoring of app performance, with reports in newly developed dashboards.





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