

Case Study

High Performance Personal Health Record Solution with Advanced Interoperability and User Experience

The Client

In 2013, this Personal Health Records (PHR) solution provider set out to improve care coordination for chronic illness patients. They developed a secure digital platform that enables patients to manage and share their health data via a web or mobile app while providing healthcare providers with a web-based system for practice management and patient communication.

The solution incorporates a secure provisioning model for protected medical record exchange, enhancing interoperability and streamlining chronic care management.

The Problem

In an effort to expand their market presence and better meet patient needs, the client hired a company to help them develop a Health Information Exchange (HIE)-enabled Personal Health Records (PHR) solution.

However, development stalled due to a lack of healthcare domain expertise. The client prioritized deep healthcare knowledge and technical capabilities in their search for a replacement vendor to drive the project to fruition. By ensuring it was highly scalable and interoperable.

Key requirements for the project included:

- ✔ Challenges with interoperability between providers and the application.
- ✔ Mobile and web apps need the same capabilities.
- ✔ Require complete CCDAs data transfer into the web and mobile applications.
- ✔ Client's customers will have ability to white-label the application.



Technology Environment

Telliant recommended & utilized the most suitable tech-stack options to ensure ease of maintenance and upgrade.

LANGUAGES

Mobile Technology

- Xamarin F.W.
- MVC Cross
- Xamarin Android
- Xamarin iOS
- XCode

Web Technology

- .Net Entity F.W. 4.5
- MVC.NET 5
- C# Web API
- Microsoft SQL Server
- Java, jQuery, Bootstrap

PLATFORMS/SERVERS

- Elastic Beanstalk
- RDS
- Cloud Trail
- Cloud Watch
- S3

TOOLS

- Microsoft Visual Studio 2019
- iOS - Simulators with XCode
- Android – Emulator: Xamarin installer
- Microsoft SQL Server 2014 Mgmt Studio
- Mirth tool for HL7 conversions to FHIR

About Us

Telliant Systems, offers a diverse selection of custom software product development services, such as product strategy, software design, application development, QA/Testing, and application management services.

Solution Highlights

Telliant's product review revealed that extensive architectural improvements were needed to create a robust, scalable web and mobile solution with enhanced API connections and provisioning. The new app collects, stores, and shares patient records with improved workflows, advanced encryption, biometrics, and compliance features to support market growth.

- ✓ Datamotion and HPD APIs enable secure HIE; Mirth tool converts HL7 to FHIR in AWS
- ✓ Advanced tenant and subtenant provisioning with white labeling for customer customizationImproved CCDA data collection, storage, and sharing.
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- ✓ Enhanced biometric security for mobile and web applications
- ✓ "This is Me" feature for emergency sharing
- ✓ Encrypted data at rest using T4G instances for HIPAA compliance

The Results

The HIE-enabled PHR launched 4 months later, under budget, resulting in 65% more app downloads and 50% more subscriptions. Automated medical record transmission from provider to patient expanded usability across more providers. Reading and transferring CCDA files and complete medical records benefited both patients and providers with improved communication and information sharing. Both web and mobile apps achieved enhanced scalability and performance to handle higher subscription rates.

