Quinnox helps build a Personalized Digital Wellness Platform

A leading U.S. healthcare technology provider teams with Quinnox to design and build a Persuasion Engine to promote wellness and save lives.
Using technology and data for better health and longer lives

Technology has the power to impact the health of people's lives in so many significant ways, particularly those that are recovering from major surgeries or health treatments. The CEO of one of America's most innovative healthcare technology companies came up with a brilliant idea... What if you could create a digital platform that blended all the key elements of an individual's health and wellness and integrated it with healthcare providers, clinical data and more to promote healthy behavior?

This company sought to realize this vision through a platform they dubbed the "Persuasion Engine" an interactive, social and data-driven wellness portal. Partnering with major healthcare systems that would offer this relational health technology platform to their patients, the primary goal would be to impact everyday behavior by creating a highly personalized experience that included their unique health goals, lifestyle attributes and motivators. A corollary objective was to reduce medical costs.

In building the platform, the company needed flexibility in the development methodology. A low total cost of ownership, scalability, minimal hardware investments, and agility were all top priorities.

However, significant challenges awaited this mid-sized team of healthcare innovators as they looked to build the Persuasion Engine. High complexity, an aggressive project schedule, minimal staff, legal and financial constraints, and a lack of testing were among the concerns. Adding to the obstacles was the fact that most of the technologies slated for use in the portal were open-source, so the typical documentation and product stability issues would have to be reconciled. As importantly, a lack of business requirement clarity would have to be addressed and remedied.
Agile methodology and robust architecture
the keys to “healthy” success

The company partnered with Quinnox in order to fulfill its Persuasion Engine digital platform vision. After a thorough assessment of the project challenges, current resources, and goals, the Quinnox team decided to use an agile methodology to cater to the company’s requirements. In addition, a dedicated team worked closely with the company’s leadership and IT group to plan and design a robust architecture in order to meet the ever-changing requirements of new releases.

With these two key project drivers top-of-mind, solutions tactics and tools deployed included:

- Hybrid Agile Methodology for development across locations for faster time to market and flexibility in the requirements
  - DROOLS Business RULES Engine for Dynamic functionality
  - Big Data Analytics using SQRRL on a HortonWorks Data Platform
  - Multiple channel interface – mobile, browsers, tablets
  - Data ingestion framework for lower integration costs with other healthcare products
  - Continuous Integration (CI) solution using Jenkins, Selenium, TestLink

In addition, a cloud-based model was used to leverage a pay-as-you-go approach, helping to eliminate CAPEX. The team also performed effective and efficient management of the product’s documentation, and self-provisioning of users was managed by an automated workflow. Finally, the platform was planned and constructed using a six-layer approach: application, service, database, Hadoop ecosystem, CI, SSO/LDAP.

Solution costs 20 percent under budget and completed 3 months ahead of time

Quinnox was engaged in this pioneering relational health digital platform project for nearly ten months, yet implementation was completed in seven months, far ahead of the "go live" date. In the process, the team worked with a vendor responsible for writing business rules in Drools, as well as a company infrastructure team, application administrators, patients, and clinicians.

The solution was completed 20 percent under estimated costs. In addition, there has been a 40 percent increase in transactions per second.

There are other important results, milestones and achievements for this project, including:

- Engineered a model, framework and architecture designed for a major healthcare system client, but is scalable and customizable so that it can be extended to other providers
- Capacity planning for an infrastructure for robust development, testing and product environments that will support the data load and growth for a minimum of 24 months
- The implementation of SQRRL Adaptor, Drools Execution Framework, D3JS Reporting, Talend Services, and more, which are scalable and only restricted by server hardware configuration
- An implementation with well-defined test scenarios and cases that can be easily fitted to the needs of a variety of healthcare providers
- Used modern open source technologies that provide stable and free upgrades, as well as creation of documentation for standard product installation and configuration practices

Overall, the Quinnox team was able to successfully expedite and execute the Persuasion Engine project ahead of schedule and under budget, and bring a long list of added value benefits to the engagement. The result is the realization of an innovative and pioneering vision for a digital healthcare platform that has the power to impact patients and lower medical costs by improving everyday quality of life and promoting healthy behaviors.
Quinnox is the agile, innovative partner of choice for enterprises in their journey of business applications.

Quinnox has accelerated success for its customers including many Fortune 500 to solve complex business problems with our end to end solutions on application integration and management, quality assurance, digitization, mobility and analytics.

Quinnox is headquartered in Chicago with onshore and offshore managed services centers across US and India.