NAVIGATING TECHNOLOGICAL EVOLUTION: A COMPREHENSIVE CASE STUDY ON HEALTH CARE IT AND CLINICAL RESEARCH PLATFORM ENHANCEMENT

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Overview

A prominent player in the Health Information Technology and Clinical Research Industries, headquartered in Durham, North Carolina, stands as a leading global provider of advanced analytics, technology solutions, and clinical research services to the life sciences industry. This Fortune 500 company operates in over 100 countries, processing more than 100 billion healthcare records annually and managing a vast proprietary data volume of over 60 petabytes. As one of the world's largest contract research organizations (CRO), this company aims to connect people, data, analytics, and technology solutions into coherent, efficient ecosystems that help life science operations run smarter, faster, and better.

Connection and Collaboration

Veritas Automata Professional Services initiated its connection with this client's parent company in 2010 and the collaboration continued after two parent companies merged in 2016 to form a new venture. The project is overseen by Team Lead, Brian Tafur, with Duvan Hurtado serving as the Technical Lead and providing essential engineering support. The 21-person Veritas Automata Professional Services, lead by Tafur and Hurtado, is comprised of six Quality Assurance professionals and 15 Full Stack Developers. On the client's side, the main point of contact is their Engineering Manager.

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Project Overview

The healthcare IT company's comprehensive and accurate benchmarking tool allows sponsors and contract research organizations to confidently forecast and budget investigator grant costs electronically. It uniquely combines all industry data sources, delivering Fair Market Value itemized costs that facilitate global forecasting and budgeting across various study phases and therapeutic areas. The client's application was initially built in JavaScript HTML and .NET, and they were eager to enhance the application's loading speed and overall efficiency. This project had several objectives:

→ Upgrade the app for improved performance

→ Provide necessary technical support

→ Migrate to a more robust and reliable technology

→ Initiate the upgrade by transitioning to AngularJS in 2016
  (and subsequently led the client to embrace Angular entirely)

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Challenges and Adapting To Them

To address the diverse challenges during the first phase of the project, a hybrid model was adopted. Open communication and the client's availability contributed to mutual understanding, which fostered a productive working relationship. Notably, the continued use of Internet Explorer by many of the client's customers required extra work and the implementation of specific functionality to enhance performance.

The client faced several notable challenges during this project. One significant hurdle was their hesitance to migrate from the existing technology stack due to concerns raised by their customers. These concerns revolved around the potential impact of the transition on their clients' operations and the overall user experience. Budgetary constraints also played a pivotal role, influencing the migration process and requiring careful financial planning. The potential to relocate the client's development team to India introduced logistical complexities, and Veritas Automata Professional Services encountered another obstacle in the form of code debt, primarily arising from the lack of comprehensive documentation from the original development team based in China. This dearth of communication complicated the understanding and modification of the codebase.

Limited access to the client's servers presented difficulties in accessing the code repository. This limited accessibility hindered the efficiency of the development and collaboration process, necessitating creative solutions and coordination efforts between Veritas Automata Professional Services and the client. Overcoming these obstacles required careful planning, communication, and technical expertise to ensure the project's success.

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Technologies Used

In this multifaceted project, a range of technologies played crucial roles. The front end was powered by Angular (for the upgrade) and AngularJS (for the initial migration), while the older front end was driven by the MVC Library (CVV) and JQuery. The tables were constructed using the Ag-Grid Library, and user training was facilitated through WalkMe. Additionally, an S3 Bucket served as the help site. The back end was primarily developed using C# within the .NET framework, while the SQL Server served as the main database of the project. To expose web applications, Internet Information Services (IIS) Servers were employed, and DevOps was supported by Azure and VMS. GitLab (Git) facilitated version control, and DrugDev provided single sign-on capabilities. Furthermore, Legacy DevOps with Hudson was also part of the technological landscape.

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Reporting Tools to Measure Success and Impact

The project implemented a rigorous approach to tracking and evaluation. Performance testing was conducted both before and after the changes to verify the tools' improved speed and efficiency. The reporting tool, Jira, was used to plan and track the progress of development and QA processes. Manual testing was used for in-depth examination, and feedback from the client played a pivotal role in the decision making process. Eventually, decisions to move into production were based on Veritas Automata Professional Services' recommendations. Veritas Automata Professional Services' role is significant in influencing architecture and infrastructure changes within the client's benchmarking tool, as Veritas Automata Professional Services remains one of the platform's key partners.

Lessons Learned

Throughout this partnership, the importance of clarity in defining the project objectives and execution plans became evident. Transparent and open communication between Veritas Automata Professional Services and the client was a cornerstone for building a profound understanding and fostering a strong working relationship.

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Future Considerations and Improvements

The collaboration journey is far from over. The plan for the future includes continuing the migration until 100% of the front end is on Angular. Veritas Automata Professional Services remains committed to optimizing application performance, demonstrating an enduring dedication to the client's success.

Client Satisfaction

With a trusted partnership spanning nearly 13 years, the strong relationship, built on expertise and reliability, continues to be the fundament of this collaboration.

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From the Client

"Our products are technically undergoing constant enhancements, constant technical improvements in order to serve our clients so it's critical for us to have a group like Veritas Automata Professional Services partner with us to service our needs."

"There are many great things about working with Veritas Automata Professional Services but the top one you have to mention is the talent, which has been excellent for us."

"An important thing that the team at Veritas Automata Professional Services has been able to bring to the table which differentiates them from other groups we have worked with in the past, is the desire to proactively understand everything about our business prospects and our products. They don't hesitate to come to us with great ideas."

"Our team at Veritas Automata Professional Services has a really deep knowledge of all the technologies and a broad knowledge of our systems and they're able to work fast, concurrently, and deliver a good product and think a lot about the future."

"I've recommended Veritas Automata Professional Services to groups outside of our organization as well as other groups within my organization."

"Something that Veritas Automata Professional Services does better than other companies is hiring developers. They have an unmatched ability to bring on new people to the team and every single person that comes on to the team is fantastic."

"There is always positive interaction between us and the team at Veritas Automata Professional Services. They respond quickly and the talent is very good."

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