

CVS Case Study – Enhancing customer experience by accelerating web-app responsiveness from 2 mins to 500 msecs for Fortune 100 HSP.

Product Background:

- The client had a public web app that users relied on to check if the pharma products they intended to purchase were covered by their insurance providers.
- There were two intended users of this application
 - Pharma Managers
 - General Public who intends to purchase pharma products and drugs at the pharmacy

Business Challenges:

- **Product Inefficiency & Customer Experience**
 - In its original state, this web app would take around 2 mins to generate responses for end users and Pharma Managers and thus resulted in a sub-par customer experience
- **Software Development & Employee Engagement Inefficiency**
 - Upon consultation with the client, we realized that it took about 1-2 weeks for the existing team of 6 engineers to develop one feature and address one technical issue/ticket
 - In addition to that, there were communication inefficiencies that created barriers between engineering and product management teams, and this was impacting business operations
- **Architectural Challenges**
 - The existing architecture lacked standardized processes and procedures that one must follow while building different components since this web app was originally developed by 20 contractors who belonged to different vendors
 - The existing team did not use different components correctly e.g., SpringBoot Hibernate, DB Tablet Joins, and indexing operations were done in a random and unstructured manner
- **Communication Gaps & absence of agile methodology**
 - The contractors and engineers spent more time building features and less time understanding what the end goal of each feature is, and this resulted in inefficient architecture and code base that further impacted the performance of the web app
 - The team didn't follow prioritization principles and ended up building more inefficient features rather than standardizing the software development process

Solution:

- Creospan provided a team of 5 - 1 PM, 1 Senior Engineer, 3 Jr. Engineers
- Integrated agile mindset and philosophy in software development, design, and planning process
- Within 7 months, we went from building 1 feature a week to delivering 4 features per week by integrating agile mindset, resolving communication gaps and building a strong foundation for collaborative software development ecosystem
- We significantly enhanced the customer experience by reducing the latency of this web application from 2 mins per query to 500 msec
- We introduced the batching process that allowed for efficient data retrieval from the database, and this helped us reduce the database latency, thereby enhancing the customer experience

Technology Stack:

- Spring Boot & Angular – We used the existing stack in this project

Business Benefits:

- **Enhanced Customer Experience & Web-App Responsiveness** - Latency reduction (From 2mins to 500msec) through the newly introduced batching and software computation/complexity minimization framework resulted in enhanced customer experience
- **Accelerated Software Development Velocity** - Within 7 months, we went from building 1 feature a week to delivering 4 features per week by integrating agile mindset, resolving communication gaps and building a strong foundation for collaborative software development ecosystem. This resulted in added cost savings and resource efficiencies for the business.
- **Business Efficiency / Lean Team** - Team was able to deliver significantly better value with a smaller number of resources

Consultant interviewed for this case study:

- Kenneth Liu