IT Solutions

Case Study:

Reimbursement User Interface Application Development

CDI provides architecture, development and project management services to create a software environment with the scalability to reduce software costs.

Client Description:

The oldest and world's largest healthcare services company that provides pharmaceuticals, medical supplies and technology solutions to improve the quality of healthcare. The company's people, products and technology solutions touch every facet of the healthcare system, from physicians to hospitals, pharmacies, payers and patients. Highlights of the company include:

- One of the largest pharmaceutical distributors in North America, distributing one-third of the medicines used and supplying more than 40,000 US healthcare locations including Wal-Mart, the Department of Veterans Affairs and community pharmacies.
- The nation's leading healthcare IT company, with software and hardware technology installed in more than 70% of the nation's hospitals with more than 200 beds.
- The company develops and installs electronic systems that eliminate the need for paper prescriptions and paper medical records and provides physicians with easy and secure online access to patient information.
- The company's bar-code scanning technology helps prevent more than 330,000 medication errors every week, ensuring the right patient gets the right drug at the right time.

Distribution brings in the majority of the company's revenues. Recently, strategic acquisitions have become increasingly important to the company's growth with particular interest in growing its technology services businesses.

Background:

Our client's call center interface was developed in old proprietary software. The existing framework had become limited in functionality and required redevelopment. In this environment, our client's call center used the interface to access information on their customers. The entire front-end had embedded business logic which made it very difficult to update and test the system as new functionality was required. The ultimate goal was to redevelop the existing front-end to a robust user-friendly technology that would allow our client to continue to grow its call center capabilities.

Business Issue:

With a clear understanding of how technology impacted the efficiencies of their call center agents, our client realized slow screen response times and agent down time which translated to customers not being provided the high levels of service they were accustomed to receiving. To address this issue, our client decided to invest a substantial amount of capital in developing a system that they knew would provide high levels of service and up-time to their agents and thus increased service to their customers.

The new system requirements included that the system had to be fast, intuitive and have a similar look and feel to the existing system. This would reduce the amount of change and training needed for the call center group.

CDI Solution:

CDI's Program Management Office (PMO) was hired to lead the core team and provide its experience and expertise in driving projects to completion. CDI provided the Architectural and Development support to redevelop the entire user interface. CDI fulfilled the architectural, development and project management responsibilities, and led the project team from initiation through the completion of the project. The CDI team partnered with an internal client team to deliver the project. Each team had responsibility for delivering specific areas within the application.

The CDI solution for the user interface was built upon a

foundation which included BEA Web logic Portal Server, Yahoo UI JavaScript widgets and Struts 2 framework, with an existing J2EE back-end system and data processes that had to be redeveloped. The user interface was modeled after the current application in terms of screen layout and workflow, but offered a much richer user experience than was previously possible. By exploiting the current powerful internet browser technology, the internet browser was made to act as an application platform rather than a more traditional website. By taking advantage of industry-recognized JavaScript libraries from Yahoo and others, CDI made it possible to control most aspects of the user experience, for example, Application refreshes and cursor control.

CDI improved the performance of the old system which allowed the client to scale their business without having to add additional hardware. To accomplish this, we utilized Yahoo UI JavaScript controls such as buttons and menus which are built to provide simple access to advanced browser features including simple animations (i.e. fade-in, fade-out), and provides content manipulation that does not require communication with a back-end server.

JavaScript libraries were also utilized to provide wizard-style screens that are found throughout the user interface application. All wizard screens and data are controlled by a single page download with each wizard "page" being displayed as needed. When screen updates were required, screen refreshes were minimized by using AJAX technology. AJAX features that are built into the Struts 2 framework allowed content areas to request information from a back-end server without interrupting the user experience. JavaScript UI controls and certain content areas defined by Struts are currently able to receive data directly via AJAX and update content automatically, whether it is search results or dynamic additions to a screen based upon user entry.

Results:

The project was completed successfully over an 8 month period with a team that included Architects, Developers, Project Manager, and Quality Assurance Staff. Approximately 140 screens were designed, developed and deployed with the project completing on budget and on time.

Utilizing CDI in an Architectural and Development role, and allowing us to provide overall project oversight created an environment, which when coupled with internal teams, resulted in a solution that flawlessly integrated with the existing project groups. System turnover was seamless and the user interface design reduced training needed as it looked and felt very similar to the one that was used every day, but ran faster than the existing system. This system will allow our client to add an additional 100+ agents on their Reimbursement Service Desk without having to worry about installing a large infrastructure to manage the application.

Technologies Used:

- BEA Weblogic
- J2EE
- Struts 2
- JavaScript
- AJAX
- Yahoo UI JavaScript
- Microsoft Office Suite as Project Management tools