Legacy eCommerce Platform Migration

Synopsis

BTC migrated the client's legacy Delphi eCommerce platform to a new robust, customizable ecommerce platform. With a highly dynamic UI and state-of-the-art technology powering its eCommerce site and back office, the client was able to increase its ROI.

Business Need:

The client's legacy Delphi eCommerce platform which was over 10 years old was getting hard to maintain. Content changes to the website were arduous, involving change requests, code changes and the overhead of deploying a new build. The eCommerce site would run into performance bottle necks at high volumes, causing customers to abandon their orders. The user interface which was designed before the advent of rich web pages was enhanced in bits and pieces causing it to be quirky and not holistic in its approach to usability. Managing catalog content, product images, promotional discounts etc. was a cumbersome process involving manual export of data and running of database scripts for any change.

What the client needed was a state of the art, robust, customizable eCommerce platform that would result in increased online sales and make the site management much more efficient.

Challenges and Requirements:

BUSINESS CHALLENGES:

- Streamline the product selection and customization, shopping cart and order placement experience for the customer
- Build a rich, dynamic online catalog and provide the business a way to maintain it on an ongoing basis without IT involvement

- Manage product attributes and images – allowing adding new items, discontinuing items etc with minimum effort
- Measure site visits, conversions and shopping cart abandonments
- Build this solution to be highly secure
- Eliminate errors in the order fulfillment process by trapping and handling potential error factors at the UI level and automating as much of the process as possible
- Site usage, customer usage and order management reports

TECHNICAL CHALLENGES:

- Understand current functionality by analyzing existing legacy code
- Integrate new platform with the ERP backend
- Build a highly dynamic UI
- Revamp the data schema
- Improve the site performance to handle current peak usage and future projected volumes
- Build analytics into the pages to capture customer click-throughs and conversions
- Migrate existing users from old database schema to the new schema
- Adhere to the PCI Security Compliance guidelines
- Internal role-aware administrative tool to manage site content, product attributes, customers and orders

Solution:

Boston Technology Corporation formed a team with eCommerce domain knowledge and deep J2EE experience to interface with the client and understand not just the requirements but the ultimate long term vision of their eCommerce strategy.

After coming up with detailed business and functional requirements, the Boston Technology Corp. team worked with the client to complete a visual design. The next phase was the technical design and BTC chose to implement the solution using the Struts J2EE framework with the application running on the Apache Tomcat container. jQuery was the library of choice to provide a rich UI experience and Akamai was chosen as the image management vendor for the high quality product images. The backed database was Oracle.

Java-based Web services were built to integrate with the ERP backend for inventory look-up, pricing information and order management and fulfillment. All standard eCommerce components like customer registration and profile management, product catalog, product browsing, shopping cart, billing and shipping address capture, payment information collection and order processing were designed and built using the J2EE technology stack.

A thorough analysis of the legacy code allowed BTC to capture nuances of the current site behavior and make sure that these were all successfully migrated and enhanced as necessary.

One of the biggest value add from a customer and client perspective was the building of a product customization interface which allowed the user to choose a product, customize it (add embroidery, hemming, company logo etc.) and see a realistic preview of their customization before placing the order. The UI provided the customer the means to update their logos, choose thread colors for embroidery, specify font etc. – all in a few simple steps, implemented using the rich jQuery libraries. This was a big improvement on the legacy site which had a confusing flow with limited customization options.

The admin tool was built using Google's GWT (Google Web Toolkit) which provides dynamic AJAX functionality using Java code – thus giving us the ability to build a tool that was capable of handing high volumes and levels of interdependent data that could be retrieved and manipulated in keeping with the complex business rules that applied to the client's eCommerce operation. Custome reports were built to help the business manage its customers, products and orders.

Google analytics was incorporated into the site to measure usage and conversions allowing the business to pinpoint user patterns and run customer campaigns based on that information.

The end result was a nimble, user friendly, highly functional and flexible eCommerce platform that exceeded the client's expectations.

Result

With state-of-the-art technology powering its eCommerce site and back office, the client was able to increase its ROI by acquiring and converting more customers. Online sales went up by a significant amount in the first three months after deployment. The admin tool exponentially increased worker productivity, from managing the content to processing orders. The end result was a happy client who engaged BTC to migrate the next of their seven eCommerce sites to the new platform, which was flexible and reusable and laid the foundation for future eCommerce site migrations for the client.