Enhance Self-ordering Experience for Fresh Food Departments of Groceries & Superstores

The Client

The company is a leading provider of self-service solutions to a growing number of retailers in the Supermarket, Convenience Store, and Foodservice industries. They are leaders in multi-channel retailing and provide hardware and software to thousands of stores in the Midwest and Southern USA to manage in store ordering system at the fresh food departments such as deli, bakery, ready-to-go meals, etc. Their Strategic Self-Service Solution (S4G) suite, including self-ordering kiosks, face-2-face order-taking tablets, and fully integrated queue management is designed specifically for grocery supermarkets.

The Challenge

The customer's challenge was to develop software and UI for various form factors for different kiosk sizes, add new features for each new store chain and keep the software defect free and updated for all versions. An added complication was the management and integration with various printer hardware sourced from IBM and other vendors. Making feature enhancements to the software and testing for all these variations and integration points with the hardware was a constant challenge.

The software was mission critical to the smooth operation of store counters and could not fail at any point in time; failure meant loss of revenue, long queues at the fresh food departments and agitated customers.

Project Objective

Trigent's objectives for the project were to build software for the kiosks that was robust and failsafe and also to develop an easily navigable interface with minimal touches for the use by shoppers of varying age. The software also needed to integrate and work seamlessly with the printer hardware, ticket dispenser and kiosk interface. The key success factor and value add for the grocery chains was prediction of accurate wait times by the software so that queue management at the fresh food departments was smooth and uninterrupted during peak hours. The opportunities to cross-sell and up-sell services were also to be enhanced.

Trigent's Solution

A team of business analysts from the client and Trigent prepared user stories from

experiences at the stores and built the UI for the application using a rapid prototyping and validation process. In parallel, technology choices for the software and hardware options were evaluated and IBM/Epson hardware and Microsoft technology for the software was chosen as the final candidates. An offshore lab to test the software and hardware and the integration points was established within few weeks from start of the project.

The product was developed using ASP.NET and the MVC framework. Apart from usual product selection and customization of orders e.g for sandwiches, enhanced features for increasing loyalty purchases, analytics and audit trails were added for grocery managers to analyze purchases and increase revenues. Care was taken to keep the architecture loosely coupled so that changes to hardware, software and UI could be done with ease and overall maintenance costs could be kept low.

Using Trigent's 4D (Discover, Design, Develop, Deploy) methodology reduced risk for the customer since there were distinct deliverables reviewed and validated at each stage. Extensive usability testing was conducted so that users of all demographic categories could use the application with ease.

Further phases were planned to enhance the application and add iPad and other tablet device capabilities.

Customer Benefits

Using Trigent's design and development capability and capacity, the client was able to release products faster to a large grocery chain with 800 kiosks within 6 months. Using the offshore hardware and software test lab accelerated integration testing with multitude of Epson and IBM hardware. Since 3 major grocery chains used different versions of the kiosk software, extensive testing of the software installation and version updates was done through a rigorous testing process. Thoughtful interface design, supplemented with formal usability design and testing ensured a great self-ordering experience. Reliable and scalable software implementation ensured shoppers' orders are processed, fulfilled and delivered on a timely manner.