

Crate and Barrel Drives Internal Transformation

Crate and Barrel moves to a single code base and transforms development practices, increasing productivity to meet demanding business needs

CHALLENGE

- Business model required a more modern platform and a single place for development of each brand
- Complex shopping behaviors created demand for a seamless end-to-end customer experience
- Needed to evolve development practices, raise productivity, and innovate

RESULTS

- Migrated from WebForms to ASP.NET MVC
- 37,000 legacy lines obsolete, 17,000 lines deleted, 75% test coverage
- Seamless customer experience, optimized page performance, and consistent branding
- Developer scripts decreased 7-day setup to 1 hour
- Local build tools reduced page load times from 10 minutes to 1
- Well positioned with the backbone to support microservices



We found Headspring to be heads above all of the consulting partners that we had previously utilized in our web e-commerce domain. Headspring was able to take on a large project and, in addition to what was asked, they filled gaps where we did not yet realize we had gaps.

- Tim Arndt

*VP, Information Technology
Crate&Barrel*

COMPANY

Crate and Barrel is an industry-leading home furnishings specialty retailer, known for exclusive and functional designs celebrating all things home. The Crate and Barrel family of brands includes CB2 and The Land of Nod. Their mission is to offer inspired living across all platforms and a seamless omni-channel retail experience across their physical stores, catalogs, and e-commerce.

Industry: Retail

Headquarters: Northbrook, IL

Service Area:



Legacy System
Modernization



Consulting
Service

WHY HEADSPRING?

Forward thinking approach

Headspring was the ideal partner given their ability to diagnose and solve the right problems while remaining focused on the big picture. Root cause analysis of each challenge went beyond diagnosing just symptoms to create a solution that solved for Crate and Barrel's business needs today, and would be the backbone to support microservices.

Expertise

Crate and Barrel looked to Headspring for their high level of technical competence, development and testing practices, and code quality. They needed a partner who was highly adept in the ASP.NET MVC framework and could take over the project to build a solid system. They required a partner who was well versed across technologies and tools, with the ability to implement the most impactful practices to drive internal excellence.



Proven track record

Headspring's experience with legacy code rewrites for e-commerce positioned them to hit the ground running to replatform the sites. Their strong references and proven track record solidified Crate and Barrel's decision that they were the right partner to work with and grow with.

CHALLENGE

Create a central place for development

Crate and Barrel required a more modern platform to support the complexity of the business model and evolving e-commerce needs. Their vision was to consolidate and retain as much legacy code as possible, creating a single code base for development of each brand's desktop and mobile sites. They were committed to the MVC framework and challenged with finding expertise to complete the conversion project.

Create a seamless customer experience

Shopping behaviors were complex, which created pressure to offer a seamless end-to-end experience between brick-and-mortar, e-commerce, and catalog. To solve for e-commerce, each brand needed a cohesive experience between mobile and web. Current front-end architecture prevented sharing CSS styles within each brand, creating inconsistent branding. The declining site performance resulted in slow load times, a frustrating user experience, and customer drop-off.

Transform development practices

Existing infrastructure was impeding developer productivity and limiting innovation. The brands were on different platforms which required ongoing maintenance instead of focused development of cash-driven features. Furthermore, each line of business had a separate development team forcing them into siloed development practices. New challenges emerged during the project which uncovered additional gaps in development practices.

SOLUTION

Convert to a new framework

Sites were replatformed and migrated from WebForms to the ASP.NET MVC framework, creating a single place for development with the MVC site being the only place code lives. The architecture laid the foundation for improved internal processes, highly customizable components, and migration to microservices.

Introduce new methodologies

Headspring discovered unrecognized development gaps and pivoted the project to introduce new practices including:

- ❖ HTML Tag Helpers sped up-front end development and reduced redundant markup code
- ❖ Watch Command enabled updates to be seen in seconds rather than minutes
- ❖ Automated tests caught defects before they were in production
- ❖ Routing improvements created one place to update URL routes
- ❖ Consistent Validation Logic vetted unit tests with server-side validation in one place
- ❖ JIRA transformed an unclear and unstructured ticketing process

Keep Crate and Barrel's team in the driver's seat

Collaboration was core to the engagement, ensuring decisions aligned with Crate and Barrel's goals and preserved their team autonomy. Raw benefits were weighed against familiarity and skillsets with current tools in order to prioritize change, ensure user and developer acceptance, and mitigate disruption to the day-to-day. Headspring built strong partnerships across disciplines including development, QA, design, and business to keep everyone informed and apply change across all teams and processes.

Empower the development team

Headspring recognized the need to improve Crate and Barrel developer velocity and productivity to support the business. A new machine install script enabled developers to quickly get setup with a running application, database installations, and permission configurations. Git-TFS enabled developers to move faster with local development bridged source control to isolate bodies of work through feature branches and stable builds.



RESULTS

Single code base and standardized framework

Gift registry was the first site to undergo the single code base conversion, which produced immediate benefits: 37,000 legacy code lines obsolete, 17,000 lines deleted, 75% test coverage, and minimal production issues. To create a scalable and sustainable system, shared business logic code libraries were migrated to focused, consistent, and extensible logic. Standardized development practices and consistent code pattern gave developers the flexibility to work anywhere across business units.

Positive customer experience

The user experience was drastically improved with optimized page performance, responsive mobile and web design, and a cohesive front-end look with consistent styles, UI actions, and validations across all gift registry sections. The new framework was highly adaptable and enabled development teams to pivot quickly and release features fast enough to meet customer needs.

Workflows

New best practices for scoping and detailing manageable bodies of work resulted in increased velocity, reduced rework, and aligned expectations between developers, QA, and the business.

Project management

New ticketing process outlined requirements for a fully defined scope with improved estimation accuracy and timeline visibility, and artifacts documented and stored for future reference.

High developer productivity

Crate and Barrel evolved their methodology and execution of software delivery as a whole, becoming more forward-thinking in their development practices.

Agile delivery

Developers adopted agile practices resulting in efficient standups and sprint planning, detailed backlog for requirement alignment, and streamlined day-to-day operations.

Increased development velocity

Crate and Barrel struggled with time consuming maintenance, and now have more hands on development and more time to develop cash-driven features. Developer scripts transformed an intensive 7-day process down to just 1 hour, getting developers up and running immediately. Local build tools were introduced to speed up work and releases, dropping page load times from 10 minutes to 1 minute. Git-TFS increased developer throughput by 10%, mitigated any new release changes from breaking code, and the increased velocity enabled them to release new features and enhancements they could never consider before.

Well positioned for future success

Crate and Barrel was empowered to take ownership of their software, and equipped to understand not just the 'how' but also the 'why' of their system. A single code base Wiki armed the team with resources needed to continue development and feature enhancement. The new framework equipped Crate and Barrel with a solid foundation to implement independent, scalable microservices.