



HyperTrends leads development of MyCollegeOptions.org for NRCCUA

“HyperTrends has done, and continues to do a superb job in managing and developing our MyCollegeOptions.org website. The progress made in this project would simply not have been possible without their help and expertise.”

-Earl Yoder

The MyCollegeOptions.org web application is NRCCUA’s primary web portal offering students a wide array of services and content intended to facilitate their college preparation and planning efforts. MyCollegeOptions.org is an integral part of NRCCUA’s business model and is considered a key component of the company’s future growth and success, so when the project started experiencing problems, NRCCUA engaged HyperTrends to take over multiple aspects of the project in order to get it back on track.

The Problem

The MyCollegeOptions.org project had problems on multiple fronts:

- The project’s overall progress and the speed at which enhancements were being introduced were slowing down NRCCUA.
- The quality of the work being done on the site was severely lacking, leading to overall site instability and performance issues.
- The overall product vision and roadmap was missing.

The Solution

HyperTrends overhauled the MyCollegeOptions.org project on all fronts, from process and project management to software architecture and day

Overview

Country/Region: USA

Industry: Education

Customer Profile

NRCCUA is a non-profit organization devoted to making the important, and often difficult, process of selecting a college education or career path easier for students.

Business Situation

MyCollegeOptions.org, an integral part of NRCCUA’s existing business, is considered to be a key component for driving and expanding future business. When HyperTrends was hired to take over the development of the MCO site, the following problems existed:

- Existing Architecture was inflexible and did not scale
- Existing codebase was buggy and inefficient
- No clear development process was defined
- No clear product roadmap existed

Solution

HyperTrends LLC provided My College Options with guidance in all areas of the software development lifecycle including Project Management, Product Development, Systems Architecture, ASP.NET Development using AJAX, LINQ to SQL, Omniture Tracking development, SEO initiatives using both On-site and Offshore resources.

Benefits

- Improved process and project management
- Reduced complexity
- Better communication and collaboration
- Enhanced design and architecture
- Improved site stability and performance
- Faster higher quality development



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to day development. Here's a summary of the enhancements and benefits to the MCO project and site:

Process & Management

- Implemented a formal Software Development Lifecycle (SDLC) that enforced an iterative development process with clear steps for requirements gathering, analysis and design, development, testing, and deployment.
- Placed a Business Analyst resource onsite for requirements gathering and specification authoring.
- Recommended and facilitated a migration to Microsoft Team Foundation Server for source control, change management, and SDLC management.
- Setup a project portal for team collaboration, document repositories, and project/task/bug management.
- Assembled an offshore development team consisting of both development and QA resources.
- Applied proper project management techniques and practices
- Installed a project manager to coordinate multiple streams of development between on-site, off-site, and off-shore resources
- Setup processes for round the clock development including processes for parallel streams of development, testing, and deployment.

Benefits:

- Work is now being defined and detailed before given to the development staff for analysis and implementation.
- Developers now work from written business requirements and functional specifications.
- **Throughput increased by over 300%** with the addition of the offshore team, without a major increase in development costs.
- Production builds are more stable with the occurrence of production **bugs having decreased by over 200%**.
- The project now has a clear vision statement and a product roadmap spanning more than 6 months into the future.

Software Architecture and Development

- Defined a system wide architecture, established coding standards, fixed bugs and performance issues, and implemented site enhancements.
- Introduced policies enforcing code reviews and peer reviews.
- Analyzed site code (from the database to the UI) to identify performance bottlenecks.
- Efficiency problems were identified and corrected in all tiers of the application.
- Created coding standards and architectural documents outlining best practices to be followed by all development staff.
- Reorganized the application's layout to create and maintain a consistent separation of responsibilities.
- Upgraded the .Net Framework from 1.1 to 3.5.
- Incorporated the MS Unity Application Block into the application increasing the application's flexibility and extensibility.
- Added the practice of using LINQ to SQL to simplify the creation of the data access code.
- AJAX controls and asynchronous callbacks were introduced into the front-end for an enhanced user experience.
- A URL rewriter and coding standards were introduced for Search Engine Optimization (SEO).





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Benefits:

- Overall site performance was improved tremendously (by 500% in some cases).
- Existing production bugs were identified, classified, and systematically corrected.
- The application's overall design, structure, and quality were improved considerably.
- Significant improvements in development time and throughput.
- Increased structure and standards in the application's day to day development.
- Quality of work and developer output has greatly improved.
- Proper development and design standards are now followed.

Tools/Technologies Used:

- **.NET 3.5/Visual Studio 2008**: allows complete end-to-end development for a Web based application.
- **SQL Server 2005**: Used to house the MCO database.
- **Linq to Sql**: All database layer logic was programmed using Linq to Sql to allow rapid development.
- **Microsoft Patterns & Practices Unity Block**: Used to intrudes a dependency injection later between tiers
- **JQuery & Ajax**: Used to create dynamic web user interfaces.

Application Functional Enhancements

Following is a short list of some of the MyCollegeOptions.org site enhancements implemented by HyperTrends:

- Addition of Scholarship Match & Search functionality.
- Integration of Unica Interact for intelligent ad serving
- Integration of Kentico CMS
- Site-wide tracking and reporting using **Unica NetInsight**
- Addition of the My Options section which features a tabbed interface allowing users to view and manage their matched colleges, interested colleges, favorite colleges, and scholarship matches.
- Addition of drag-and-drop favorites reordering using AJAX.
- Addition of a full featured Blog for communicating with the site's user base.
- Redesign of the College Match Survey into a tabbed interface.
- Addition of the College Resources section.
- Redesign of the College Search functionality making searches quicker and more user friendly.
- SEO enhancements to allow all college information and content to be indexed by the search engines.
- Addition of the Zero Hour Thread test preparation game.
- Addition of dozens of email campaign landing pages.
- Redesign of the entire site's user interface.
- Addition of High School Search functionality.
- Addition of paid ad functionality using AdPeeps ad management system.
- Integration with SimpleTuition to offer Student Loan search and match capabilities

