



THE NATIONAL ACADEMY OF SCIENCES

**CRAFTER WCM
STREAMLINES OPERATIONS WHILE
EXPANDING BUSINESS USER FLEXIBILITY**

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The National Academy of Sciences (NAS) puts control back into the hands of the editorial team while improving the site visitor experience with Crafter Software.

FOR THE DIVISION ON EARTH AND LIFE STUDIES, ADDRESSING A NEED FOR BETTER BUSINESS USER EMPOWERMENT

The National Academy of Sciences (NAS), along with three other organizations — the National Academy of Engineering (NAE), the Institute of Medicine (IOM) and the National Research Council (NRC) — collectively form the National Academies. These organizations produce groundbreaking reports that have helped shape sound policies, inform public opinion, and advance the pursuit of science, engineering, and medicine. Originally chartered by the US Congress in 1863 at the request of President Lincoln, the National Academy of Sciences' mission is to serve the nation with independent, expert advice. The Division on Earth & Life Studies (DELS) is one of six subject area divisions that enlist the nation's

top experts to respond to requests for advice from the Federal Government, states, and foundations. The 12 program units, or Boards, within the division produce reports, which represent some of the most authoritative source of scientific and technical information for the nation.

The DELS website (www.dels.nas.edu) serves as an important gateway to manage the 12 Board sites. Over the past few years, as the amount of information has grown, so has the challenges with the existing homegrown CMS. Comprised of a combination of static HTML pages and dynamic PHP pages, the legacy system lacked the Web-publishing tools necessary for staff members to produce fresh content when they needed to, resulting in lost productivity and outdated content. IT support

CASE HIGHLIGHTS

NAS deploys a robust open source Crafter WCM solution to enable business users total freedom of control over their Web content while streamlining operations and increasing productivity.

- **Organization** - The National Academy of Sciences (NAS), along with three other organizations — the National Academy of Engineering (NAE), the Institute of Medicine (IOM) and the National Research Council (NRC) — collectively form the National Academies. These organizations produce groundbreaking reports that have helped shape sound policies, inform public opinion, and advance the pursuit of science, engineering, and medicine. The Division on Earth & Life Studies (DELS) is one of six subject area divisions that enlist the nation's top experts to respond to requests for advice from the Federal Government, states, and foundations. The 12 program units, or Boards, within the division produce reports, which represent some of the most authoritative source of scientific and technical information for the nation.
- **Challenge** - The legacy, home-grown CMS used to manage the DELS website proved to be lacking as content editors often required IT assistance and knowledge of HTML when updating or creating new Web pages. The lack of a user authentication system also prevented DELS from enforcing any sort of accountability.
- They needed a modern, robust Web content management and delivery system to effectively maintain the online presence and utilize the site to improve outreach activities.
- **Solution** - An Alfresco content management platform, combined with Crafter for Web content management and Grails for the presentation-tier Web framework, gave DELS a flexible, yet user-friendly solution it required to allow business users full control over the content creation and publishing process. The new Crafter-managed website now provides a richer and more interactive experience to site visitors by leveraging dynamic content delivery and Web 2.0 feature integration.
- **Results** - The resulting website put content publishing in the hands of the Board staff members, dramatically reducing IT involvement while increasing the level of accountability available. The website is now seen as a tool to empower outreach activities. Pleased with the results of the solution, the Board members are already thinking of new ways to leverage this new solution.

was always necessary for creation of new pages, which required writing HTML from scratch. Making page updates was an equally tedious process. Struggling with broken functionality, patches were often added to fix an immediate problem, adding on to the organically growing system and making it increasingly difficult to maintain. With a variety of technologies in use, maintaining security updates also became cumbersome. In addition, with no authentication system or user permissioning in place, there was no way to maintain any sort of accountability. So if an issue occurred as a result of someone's modifications, there was no way to trace the problem to its source.

DELS quickly realized the need for a robust, enterprise-grade Web content management (WCM) platform to more effectively portray the organization in an efficient manner while leaving room for future growth.

A FLEXIBLE OPEN SOURCE SOLUTION PAVED THE WAY FOR PRODUCTIVITY AND GROWTH

DELS came into the project with open source already in mind. Familiar with the pricing structures of proprietary software, DELS decided it made more sense to opt for an open source solution to avoid vendor lock-in. The publicly available source code of open source software also opened the doors for customizing the solution to DELS's own needs. After evaluating multiple open source products, Crafter emerged as a clear choice due to its ease of use, user-friendly interfaces and robust functionality. "We needed a CMS that required minimum technology understanding in creating and publishing a page, and Crafter fulfilled that role," says Priyanka Komala, Project Director at DELS. Throughout the decision making process, DELS also spoke to various system integrators and was impressed by Rivet Logic's partner relationships with Alfresco and Crafter Software, along with their proven track record for building enterprise-grade WCM solutions for top notch organizations in the industry. "Rivet Logic brought a lot to the table during initial discussions," says Priyanka, "they were willing to listen and understand our problems and present the best way

"Crafter played a very important role in driving the CMS and website. The easy-to-use interface simplified reading and publishing of content."

-Priyanka Komala
Project Director
National Academy of Sciences

to approach them."

One of DELS' main objectives was to give content editors the freedom to publish their own content without IT assistance, while maintaining a level of user accountability. Alfresco, in conjunction with Crafter—an open source WCM application built on top of Alfresco—provided complete editorial control without compromising quality and performance.

Crafter offered a powerful content delivery framework and provided a seamless integration with content published from Alfresco, along with additional functionality such as caching, searching, SEO, and real-time in-context preview. "Crafter played a very important role in driving the CMS and website," says Priyanka, "the easy-to-use interface simplified reading and publishing of content."

A decoupled content delivery approach, in which the content management and delivery are separate, offered the flexibility to use a presentation-tier framework of choice. Advantages of a decoupled architecture include strong support for multi-user content production, rich and flexible content modeling, multi-site and multi-channel publishing, and better scalability and performance. In addition, it produces standards compliant XHTML / CSS and provides built-in support for SEO and Web analytics.

Rivet Logic worked with the DELS team to develop two applications — 1) Aetos, a database driven Grails application internal to NAS, which pulled data from various external sources, and 2) DELS, the public facing Web application which reads and merges data from both Aetos and Alfresco. Aetos is the content repository that houses core information about

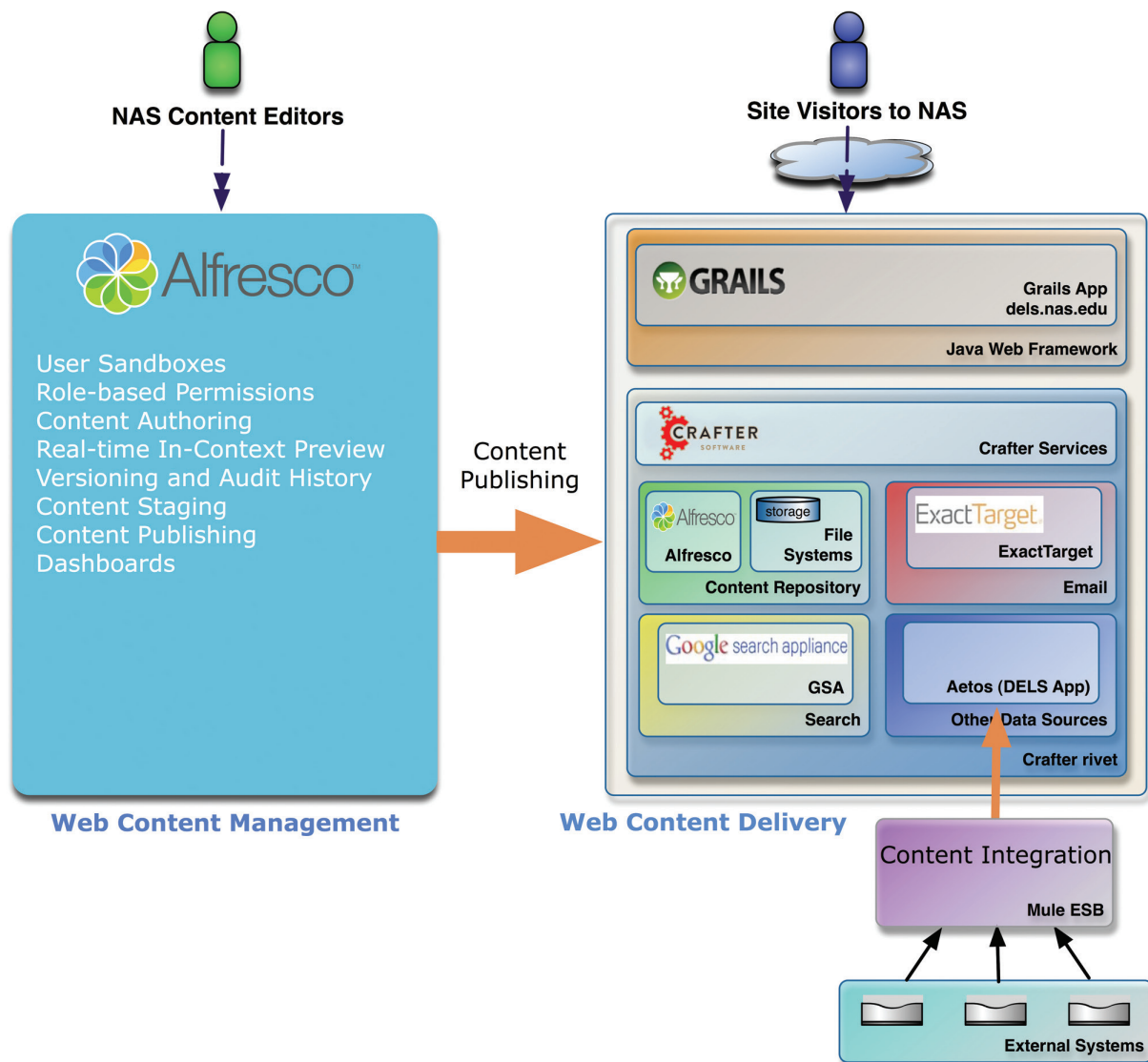


Figure 1. DELS' Web Content Architecture

Academy reports, studies, events and projects (i.e. description, location, findings, etc.), with data fed from a variety of external systems. Users have the ability to edit the information as well as put items through a workflow. As part of the integration, Rivet Logic utilized the open source Mule Enterprise Service bus (ESB) to enable content integration between Aetos and the various backend systems from which it draws its data.

While Aetos is used to store plain text data, Alfresco serves as the main content repository for all Web presentation-tier content (e.g., page templates, UI

components), Academy reports, and all digital media assets (i.e. PDF, images, videos, etc.). All content stored within Alfresco benefits from the robust set of content management services available such as advanced versioning and robust metadata modeling. All data from Aetos and all content from Alfresco is then aggregated and displayed by the public facing DELS Web application, which was developed using the open source Grails application framework.

The flexible Crafter platform also enabled seamless integrations with other systems, including ExactTarget for email marketing and Google Search

Appliance (GSA) for website search. In fact, a hybrid search solution utilizing both GSA and database search fulfilled the necessary search requirements. Through a Grails plugin that integrated GSA with Alfresco, the DELS website now provides federated search capabilities that allow different types of data to be searched through a single interface. In addition, the search integration enabled the development of dynamic UI components driven by search queries to

display relevant contextual information throughout the site. The website also leverages various Web 2.0 technologies including RSS feeds and a “Share This” widget that integrates with social networking sites to encourage social media participation.

INCREASED PRODUCTIVITY DELIVERS BUSINESS CASE FOR FUTURE ENHANCEMENTS

Rivet Logic worked in conjunction with the DELS

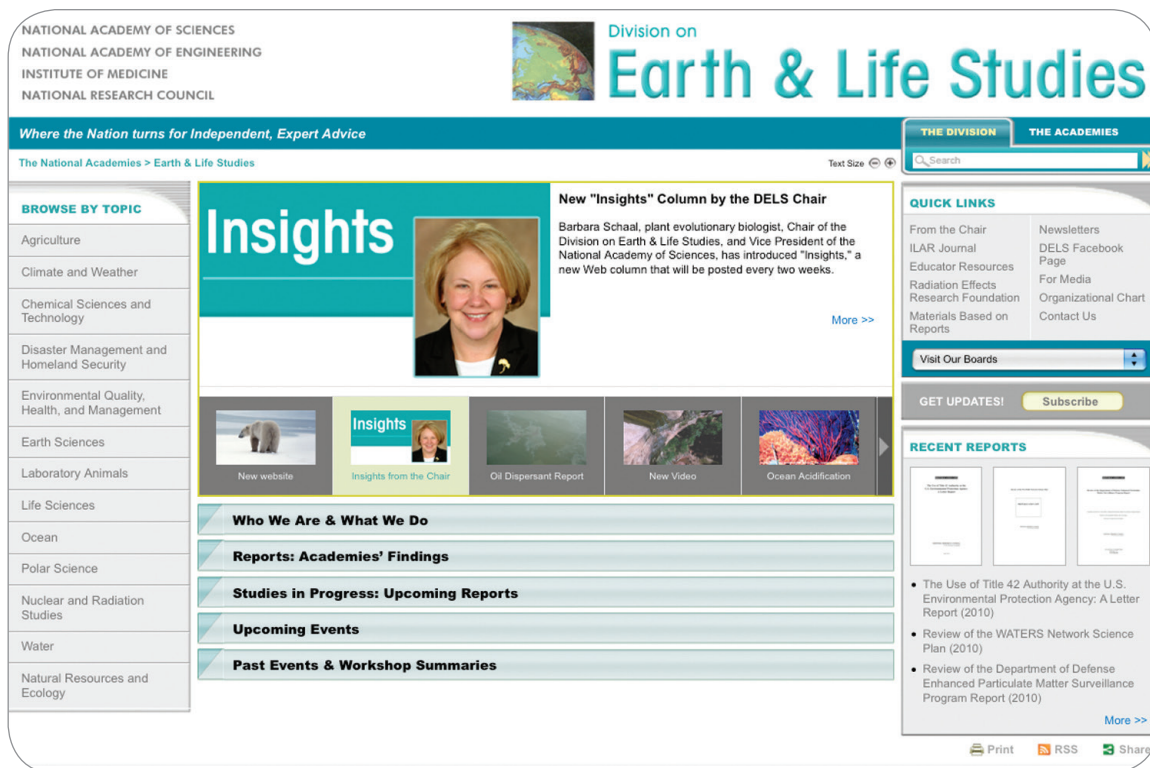


Figure 2. The new, content-rich DELS site features dynamic components through the Crafter solution

BENEFITS

- Increased productivity
- Content control shift from IT to staff members with in-context preview and Web authoring interface
- Timelier, fresher and richer content
- Zero licensing fee model of open source software prevents vendor lock-in
- Search Engine Optimization (SEO)
- Straightforward integration with third party systems
- Flexibility to grow the system with new functionality as new requirements emerge

team and incorporated an agile development methodology where both sides collaborated every step of the way to ensure all requirements were understood and being met. Priyanka Komala, Project Director, acted as the main liaison between the DELS and Rivet Logic teams. Requirements passed to the Rivet Logic team were completed and handed back to DELS to perform user testing. Throughout the project, Rivet Logic applied lessons learned from past experiences to recommend various methods of fulfilling each requirement and ways to improve on the functionalities. “The team we worked with was excellent,” says Priyanka, “Rivet Logic understood our requirements, and went well beyond a straight client/vendor relationship, presenting options to approach certain challenges that we hadn’t considered. We were very pleased with their ideas, comments and suggestions for improvements.” Although the strict timeline presented to be the biggest challenge, Rivet Logic was able to complete each phase on schedule without compromising on the quality.

By leveraging an Alfresco and Crafter based solution, DELS content editors now have full control over the website without having to look to others for help. “It is now easier for us to streamline the creation of new content through this time-efficient and easy-to-use solution,” says Priyanka. Staff members benefited the most in the areas of content management, where the amount of time spent publishing to the site has dramatically reduced. User management helped increase accountability by assigning the appropriate permissions and roles to specific user groups. Prior to the implementation of Crafter, staff members had to

learn HTML or rely on IT support to update their Web pages, which proved to be time consuming and had a significant learning curve. Now, staff members no longer need the technical expertise or the knowledge of any programming languages. The rich text editor has enabled faster updates for non-technical users, and real-time, in-context preview permits business users to see exactly what their content will look like on the live site before it’s published. As a result, the system can now easily be maintained without IT assistance. However, as new requirements are added, the solution is flexible enough to cater to the continuously evolving needs.

The DELS staff members immediately noticed this new solution as they started realizing the power of the website. The website is now seen as a tool to empower outreach activities due to its simplicity of use and flexibility. Pleased with the huge leap this solution has made to reduce IT involvement, the Board members are already realizing the potential of this tool and are brainstorming additional ways in which Crafter Software can be leveraged to improve existing functionality.

TO LEARN MORE

For more information about Crafter, visit our website at craftersoftware.com.

ABOUT CRAFTER SOFTWARE

Crafter Software enables the creation of rich and engaging websites, mobile applications, and multi-channel digital experiences. The company’s software solutions are based on the award-winning Crafter CMS open source project, which was built from the ground up as a modern platform for creating more relevant web experiences through targeted delivery of personalized content.

Serving as the lynchpin between enterprise systems and end users, Crafter’s solutions enable marketing, sales and support teams to author and manage content while harvesting analytics and data-driven insights to deliver engaging experiences across all digital channels - the web, mobile, social, and more. For more information, visit craftersoftware.com and craftercms.org.