2011 NASCIO RECOGNITION AWARDS NOMINATION

CATEGORY:

Information Communications Technology (ICT) Innovations

Web Content Management and Workflow Project

State of California

Commission on Peace Officer Standards and Training (POST)

B. Executive Summary

The Commission on Peace Officer Standards and Training (POST) was established over 50 years ago to set minimum selection and training standards for California law enforcement. More than 600 agencies participate in the POST program and agree to abide by POST's established standards. Participating agencies receive the Commission's services and benefits such as job-related assessment tools, research into improved officer selection standards, management counseling services, development of new training courses, reimbursement for training, and quality leadership training programs.

The POST Website (Website) serves a large audience of law enforcement trainers, course presenters, administrative staff, officers, recruits and the general public. The site is large and "deep" with over 400 pages and 1,350 downloadable documents. POST's ten bureaus (departments) specialize in different aspects of law enforcement training and compliance. As such, there are also many content authors for the Website.

The previous website had numerous problems. The site had grown, layer by layer, over 15 years and had become difficult for users to navigate. Updates to the system took too long due to an inflexible content-publishing process. Redesigning areas of the site was nearly impossible. The Website was simply not meeting the needs of the commission. More importantly, the system was not allowing POST to meet the needs of California's law enforcement community.

POST's new **Web Content Management and Workflow System** (www.post.ca.gov) replaced the previous public Website and allows POST to efficiently deliver training through many new Web applications. This innovative approach includes mobile website capabilities (http://m.post.ca.gov/) that allow POST to reach new law enforcement audiences. It enables social networking and paperless-distribution capabilities, reducing costs and speeding information delivery to California's approximately 95,000 sworn law enforcement officers, reserves, and dispatchers.

Perhaps the most unique characteristic is that the new system has enabled POST's entire staff to publish timely, well-formatted information to the Website, regardless of technical knowledge. The Website and underlying workflow implementation is highly - flexible and modular allowing public and secure Web features to be instantly added and modified— without the need for programming. Additionally, more sophisticated custom-built Web applications can be integrated seamlessly into the site without major effort.

The collaborative approach to this Web design has resulted in an easy-to-maintain, up-to-date Website, and allows efficient delivery of social media and Web 2.0 functionality such as Twitter, on-demand video delivery, and secure collaboration tools for law enforcement training use.

C. Description of the Business Problem and Solution

The Problem

POST envisioned their website as not just as a site where people could find information about their agency but as an interactive information communication tool that allowed them to operate more efficiently and to provide needed services to their constituency. The site would not only provide easily accessible information to those desiring to enter the law enforcement field, but it would be an innovative tool that current law enforcement officers could use to take charge of their own training compliance. POST's outdated legacy website did not allow them to realize this vision. Further, the Website was difficult to maintain and nearly impossible to modify so that POST could deliver information and implement new, innovative features that would require cutting-edge technology. A thorough evaluation of the strengths, weaknesses, overall functionality, underlying business process, and development tools used revealed the following shortcomings:

- Site navigation was difficult for users. The POST Website had grown over approximately 15 years. Its legacy structure had many layers with key content buried deeply within them. The search function overwhelmed users by returning too many results or not enough detail about each page result.
- The content-publishing process was inflexible and took too long. Change Requests were routed through email, phone calls, or handwritten notes to the Web Team, who manually logged them into the ticket system.
- The Website was based on a directory structure containing individual HTML files, rather than a database-driven dynamic architecture. This structure made it difficult to implement Web 2.0 features and prevented later upgrades POST needed to implement such as the award-winning Compliance Dashboard and Interactive Course Catalog. Social media tie-ins, video delivery, and database-driven applications required extensive time and programming to implement.
- Each page was manually created using aging tools such as Dreamweaver, HTML, and classic ASP. All layout, menus, and page linking were done manually by a two-person IT team. This was difficult, tedious, and error-prone work. Redesigning areas of the site took weeks at best.

The Solution

Once the issues with the Website were identified, POST decided to solve the business and technical problems through the Content Management and Workflow System (CMWS)—a complete Website redesign that would migrate the old Website to a new content management system with a built-in workflow process while providing a platform for the growth of future, value-added services. This solution would:

- Be based on the ASP.Net framework and Microsoft SQL Database for ease of support and enhancement with existing staff skill sets.
- Allow non-technical content authors throughout the agency to take responsibility for their areas of the POST Website.

- Be modular, customizable, and support "plug-and-play" scripting and Web 2.0 features such as video, blogs, forums, polls, and secure areas, which supported functionality POST planned for later implementation.
- Provide integrated version control and workflow management such as permissions and an automated approval process.

After researching a wide range of content management tools, POST selected the open-source MojoPortal platform by Source Tree Solutions. MojoPortal was selected for its combination of functionality, workflow integration, extensible architecture, and no cost.

POST staff managed the CMWS Project in house using the California Project Management Methodology, which is based on the Project Management Body of Knowledge but tailored for the needs of California government. Because the CMWS Project affected POST staff and POST's outside constituents, the Web team provided two high-level design walkthroughs to executive management to ensure expectations and scope were clear.

The Website was separated into functional areas to be migrated with an estimated July/August 2010 launch window. Development was conducted from January 2010 to August 2010. Web Team members worked together to migrate the content from the old website to the new system.

Challenges encountered during the implementation phase of the project included:

- Instituting a "soft freeze" for two weeks where no new web updates were made while content was moved from the old website to the new system.
- Keeping a comprehensive log of changes made for high-priority updates before the new system was placed in production.
- Finding and redirecting all "legacy links" on printed materials out in the field. All site URLs listed on printed materials were broken with the change to the new system and had to be integrated into the content manager.

The new system launched August 10, 2010. After the system went into production, the Web Team presented in-house demonstrations of the content management process to staff. These sessions were structured as interactive Q&A seminars over approximately two weeks. Department management designated individual POST employees as "content contributors" responsible for updating various areas of the content-managed site. The Web Team then presented ten in-depth training sessions on the content submission and workflow process to these employees. Staff created and distributed a "how-to-edit" desk guide and a "best practices" style guide for Web content creation.

D. Significance of the Project
The POST CMWS completely replaced the old Commission on POST Website, changing the site maintenance process from a linear, technical procedure into a collaborative effort by all POST staff. While the old Website did not support secure collaborative tools, the new system allows POST to deliver an innovative, easily-

navigable site with a clean interface. It also provides a non-secure public-facing site along with highly-secure areas. This combination means that California's law enforcement officers can get information and take control over their learning and training compliance.

With MojoPortal, POST has built several secure areas, such as the Command College Network, to allow student interaction in a secure environment, thereby supporting law enforcement training needs while minimizing the need for officers to travel. All site navigation menus, navigation breadcrumbs, site maps, and links are automatically generated by the content management tool, eliminating a difficult and technical business process completely. Content may be moved, deleted, and modified at will without causing broken links or "page-not-found" errors. An integrated search engine re-indexes the site every 15 minutes and provides highly reliable results by searching both page text and meta-data from the underlying SQL database.

It directly supports the goals of California's Statewide IT Strategic Plan:

- The POST Web CMWS supports the mission of the state's IT community to deliver "agile, cost-effective, innovative, reliable and secure technology services and solutions."
- The POST CMWS "reduce(s) costs and improve(s) access to services while increasing accountability and transparency."

The POST Web CMWS aligns with the Governor's priority of reducing or avoiding costs in state government without sacrificing services.

The CMWS also aligns with NASCIO's priorities:

- Legacy Modernization: This project completely renovated the previous legacy website, improving the business process, and overhauling the way the Website is managed and updated.
- Data and Information Management: With the new Website platform, POST can disseminate information about programs and opportunities while managing information agencies and peace officers need.

E. Benefits
The primary beneficiaries of this project are the approximately 82,000 law enforcement officers, 6,000 reserve officers, and 7,000 dispatchers of California. However, the ultimate beneficiaries are the people of California who get a well-trained peace officer community. The new content-managed site allows officers to retrieve information and publications, obtain their training compliance status, and easily contact specific bureaus of POST with questions or concerns. Importantly, this project allows POST, with a web staff of only three, to deliver cutting-edge technology to California's law enforcement community.

- With the CMWS Project, POST staff has rapidly created modular, database-driven Web applications to better serve California law enforcement. The new

system provides better training record and course information delivery. In the past, local agency staff was responsible for maintaining records, notifying officers of training deadlines, and booking training for the officers. In October 2010, POST launched the Compliance Dashboard and Interactive Course Catalog. These applications allow individual officers to view and monitor their own training compliance and locate readily available training courses.

- The Interactive Course Catalog allows officers to select from more than 2,500 courses offered by over 800 training presenters. The Catalog can target courses in close proximity to the officer's agency, search by topic, pin-point offerings on a Google map, and provide course details and presenter contact information. Having California's officers in compliance with their training is important for public safety to ensure they are competent and up-to-date with the latest training requirements. As a result, officers can obtain real-time training records and ongoing training course information directly from their smartphones or the POST Website without involving other staff.

- The POST Mobile Website (http://m.post.ca.gov) provides additional "self-service" tools for law enforcement. Officers have access to training academy maps, training records, and employment information. Because the mobile site is integrated into the same CMWS tool, the same staff and procedures may be used for rapid updates and feature enhancements.

- CMWS allows POST to quickly deliver Web 2.0 tools to support advanced-level law enforcement training programs throughout California. It allows POST's development staff to write several custom plug-in applications that run in the Website. Examples include Web-based forums, assignment submissions, surveys, file sharing, and video streaming. Over 500 law enforcement professionals per year extensively use the Command College and the Sherman Block Supervisory Leadership Institute secure network collaboration tools provided by the site. These tools, located in a secured, permissions-based portion of the Website, range from secure forums to class chat to homework downloads and submission. POST also streams videos such as the "Is Today Your Day?" seatbelt promotion video which may be viewed by law enforcement for training credit. Secured networks, made possible by this project, support ongoing POST-sponsored training.

This project allows POST to quickly and efficiently deliver law-enforcement information to the law enforcement community and the general public. With a staff of only three, POST maintains all of the above features, along with a library of over 1,350 searchable documents and information such as how to become a police officer, receive training, or obtain a job. Turnaround for web updates, from request to implementation, is less than one day.

The actual cost to move the old Website to MojoPortal was $1,280 and yields a cost savings of $36,400 per year. The cost savings may seem relatively small, but as a small agency with limited resources, it is significant for POST.

Cost savings include:

- Cost Avoidance: Agency employees save approximately .25 hours staff time in record lookup for each peace officer who uses the system. Since 7,711 peace officers currently use the system, POST estimates that 1,928 agency employee hours have been saved. In addition, POST estimates use of the CPT Dashboard and the Online Course Catalog saves approximately $300,000 in travel and per diem costs as peace officers are able to easily locate and utilize online Learning Portal courses at no cost to the agency.
- Development Cost: MojoPortal was free to download and can be supported in-house. Miscellaneous additional software costs to develop the product include the purchase of a secure certificate for Artisteer design software and several add-on modules for a total cost of $1,280.
- Hardware Cost Savings: This implementation has been extremely cost-efficient to operate, with total production hardware costs of approximately $20,000 for equipment with a projected 5-year lifespan($4,000 per year total costs.) The previous system ran on a leased server with costs of approximately $15,400 per year. Net hard-dollar cost savings for hardware alone are $11,400 per year.
- Software Cost Savings: MojoPortal is an open-source system with no licensing or procurement costs, which allowed POST to eliminate a significant portion of its licensed HTML and script development tools, providing those tools only to those doing advanced development work. The cost savings is about $5,000 per year.
- Efficiency Cost Savings from Paperless Subscription: POST saves an estimated $20,000 per year using its online paperless subscription service to reduce hard copy printing, packaging, and postage expenses. The system has nearly eliminated sending paper materials to law enforcement and the public by switching to opt-in paperless distribution of materials. The modular opt-in system, account maintenance, and unsubscription features are integrated into the content management tool.
- Efficiencies from Improved Navigation and Page Updates: The primary reason for the project was the radically increased functionality, improved navigation, and extremely responsive Web page updates.

The general public also benefits from the new site's accessibility and ease of use. Individuals may read about POST, its business functions, and its benefits to the communities of California. Those interested in exploring law enforcement as a career may use the site as a good introduction to the field, or even search POST's database of statewide law enforcement recruiting efforts.

Finally, POST staff has benefited from the content management and workflow features of this project. Non-technical staff can now modify content with an easy-to-use word processing feature. Work is routed to approvers automatically by the system, and updates take minutes rather than days. This additional functionality, plus social-networking tie-ins, allows POST staff to work collaboratively to improve our online presence. Overall, the project has resulted in more use by specific groups of POST's constituents who can now easily navigate the Website and find needed resources and services.