CGAIT
Colorado Government Association of Information Technology

CALL FOR AWARDS OF EXCELLENCE

At the Spring 2018 Conference in Aspen, we will be continuing our annual **"CGAIT AWARDS OF EXCELLENCE"** program that will recognize the annual achievements of member agencies in subject matter where their innovative application of new service delivery techniques and/or leading edge technologies has resulted in improved 1) community relationships 2) internal / external service delivery and/or 3) organizational efficiencies. We are looking for examples of outstanding work by our member organizations and agencies in any of the following categories:

- Providing exceptional customer service to citizens and / or colleagues
- Enhancing public-facing communications and services
- Improving internal operations within your agency

A single overall **"EXCELLENCE"** winner will be chosen by the members of the CGAIT Board and Spring Conference Committee based upon award applications submitted by interested member agencies. The winning agency will be notified prior to the conference and will be extended an opportunity to share their accomplishment in front of the entire CGAIT membership during a special 30 minute session. While it will be up to the winning agency to identify their presenter(s), this session is a great potential opportunity for winning agency staff members to receive recognition for their efforts.

During the Excellence Award winner's conference presentation session, it is intended that the presenting agency have approximately 20 minutes to share information concerning their specific winning initiative including 1) outlining fundamentals of project intent and particulars 2) resulting benefits recognized to date 3) unique challenges or other considerations associated with project implementation. Additionally, hopefully time is available for interactive audience Q&A.

Submissions (see the response form below) should be sent via email to CGAIT Vice-Chair Scott Lingle at scott.lingle@eaglecounty.us **no later than 5:00 pm on Friday, April 13th, 2018.**

Category: Enhancing public-facing communications and services
Project/Initiative Name: Standley Lake Rangers Activity Management System

Agency Name: City of Westminster, Colorado

Submitter's First Name: Randy Land
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Brief Description of the Project/Initiative and its benefits:

Executive Summary *(Please provide an executive summary of project concept and desired outcome suitable for posting on a website. Description should be limited to 300 words):*

> Standley Lake Regional Park is owned by the City of Westminster and provides drinking water to three municipalities as well as recreational boating, fishing, camping, hiking and wildlife viewing. The park also provides onsite storage for boat owners who purchase seasonal permits to use the lake.

> Park staffing consists of a core group of permanent employees and anywhere from 20-25 seasonal employees – hired for the peak summer season.

> Activities for staff at Standley Lake include collecting entry fees, spraying and tagging boats as they enter the lake, enforcing regulations on the lake and in the campgrounds, managing reservations, and maintaining the facilities and grounds. The bulk of this work is performed in the field by park rangers.

> Managing and tracking all of that activity previously involved a variety of tools from paper forms to Excel spreadsheets. The regulatory reporting requirements related to managing the lake, and the environmental and recreational impacts, had always been difficult to meet due to paper-based data collection and disparate data sources.

> In 2015, management staff at the Standley Lake explored an online service to create a "mobile application" that rangers could use in the field to log activities. The limitations of the service were quickly realized as the product was not a true mobile application. The team ran into security questions, usability problems, and still had the difficulty of tracking and compiling data from disparate sources.

> In 2017, the IT Software Development Team partnered with Standley Lake staff to design and build the system they really needed – The Standley Lake Rangers Activity Management System.

> This project would produce a complete solution including a comprehensive database, RESTful Web APIs, a web-based administrative application for real-time system management and reporting, dedicated mobile devices, and a native iOS mobile application for park rangers in the field.

Project Duration *(How long did the project take to complete from concepts through implementation? How long has the solution been in use?):*

> Project duration was approximately 18 months. Early discussions began in late 2016, with the official project in January 2017. All components of the system except the mobile application – which was in field testing – went live in February 2018. The mobile application was deployed in early April 2018.

Problem Set *(What problem were you trying to solve? Describe the relevant issue the project or solution was designed to address. Description should be limited to 600 words):*

> Activities for park rangers at Standley Lake include collecting entry fees, spraying water craft for aquatic pests, tagging boats as they enter and leave the lake, enforcing regulations on the lake and in the campgrounds, managing reservations, and maintaining the facilities and grounds. The bulk of this work is performed in the field.

> Logging, tracking, and reporting on all of that activity previously involved a variety of tools from paper forms to Excel spreadsheets. The regulatory reporting requirements related to managing the lake, both the environmental and recreational impacts, had always been difficult to meet due to paper-based data collection and disparate data sources.

> Standley Lake administrative staff was looking for ways to streamline processes, eliminate or reduce paper, increase the usability and accuracy of activity logging and make it easier to gather data for the numerous reports that need to be created to tracking park activities and meet regulatory requirements.

> In 2015, Standley Lake staff at explored an online service to create a "mobile application" that park rangers could use in the field to log activities. However, that did not end up accomplishing any of the original objectives. The "mobile application" was actually a cloud hosted web application which provided zero integration opportunities and limited reporting. Staff was still manually entering data into disparate systems and spreadsheets. A review of the license agreements for the app service also revealed a number of loopholes that called the security and privacy of the data being collected into question. This new process also had usability problems and still had the difficulty of tracking and compiling data from disparate sources.

> They needed a solution that would allow the rangers to log activity in the field and have that data available real-time in a comprehensive system that would better support tracking, managing, and reporting on park activities.

> They also wanted a way for park rangers to clock in and out for their shift and check equipment in and out for use during their shift. The park managers also wanted to be able to see and report on that activity in the administrative application.

> In 2017, the IT Software Development Team partnered with Standley Lake staff to design and build the system they really needed – The Standley Lake Rangers Activity Management *System.*

Project Implementation Details *(What did you actually do? Describe the project or solution that was implemented. Include hardware/software that may have been involved. Description should be limited to 600 words.):*

> Through site visits, staff interviews, and stakeholder meetings, the project team conducted an in-depth analysis of current processes, activities, reporting, and data collection.

The resulting information was then used to develop a comprehensive set of requirements that the system would address and the features the system would provide.

The IT Software Development Team then designed data schemas and application UI prototypes to model how the mobile application and web-based administrative application would look and function.

A contractor was hired to develop the mobile application. The backend data services, web APIs and web-based administrative application were developed in-house, by the IT Software Development Team. All system components, including the mobile application were developed using technologies and languages fully supported by IT.

The source code for system APIs, the administrative application and the native mobile application are owned by the city to support future enhancements and leverage the architecture for other solutions.

15 iPhone 7-plus devices were purchased for rangers to use mobile app at Standley Lake. The devices are managed by the city's MDM solution.

The mobile application includes the following features to support ranger field activities:

Off-line Operation – Contains all necessary data and functionality to support full operation in case of loss of connectivity for critical functions. When connectivity is restored pending offline activity is synchronized with the main system.

Authentication and Clock In/Out – Rangers log in to the application using their employee network login credentials. Authentication is supported through Azure Active Directory. Rangers clock in or out for their daily shift with a single click in the app.

Check Equipment In/Out – Rangers check equipment in and out for use throughout the day. Rangers can see available equipment and who has what checked out.

Contacts – When rangers interact with park visitors to solve a problem, provide a warning or enforce a park regulation, those contacts are tracked in the app – including information that must be collected for regulatory reporting. This function is integrated with permit sales data to track contacts made with permit holders.

Maintenance – Rangers can log maintenance activity with a few taps – when and where they perform the maintenance. This supports accurate tracking and reporting.

Boat Spraying – Water craft must be sprayed for aquatic pests before entering the lake. Rangers log all spray activity in the mobile app. This function is fully integrated with permit holder data to provide accurate tracking and automatically generate quarantine dates for permitted craft.

Tagging – When craft are sprayed and quarantined, they are tagged to identify the quarantine date and that they have been treated. Daily-use water craft are also tagged when sprayed. As

water craft enter and leave the water, rangers log the adding and removal of tags within the app. This feature is also fully integrated with permit holder data.

Communication – The app displays staff logged into mobile devices and supports ranger-to-ranger calls as well as click-to-call for key administrative phone numbers.

The web-based administrative application has the following key features:

Staff Management – Adding and managing employees for system access, current status of shift clock in/out, equipment check in/out, and mobile devices are all available in the administrative application.

Daily Logging/Tracking – A comprehensive search/filter functionality supports viewing and exporting all park ranger activity logs as needed.

Reporting – All critical management and regulatory data is searchable and viewable, and can be exported as needed.

Permit Holder Data – Permit holder data is synchronized from the originating permit sales system to the Standley Lake system to support full integration and reporting.

System Administration – All system administration needs such as employee account configuration and system lookup table maintenance for the mobile application.

Project Benefits *(What was the outcome? Describe the benefits realized as a result of completing the project. How far along are you at this point towards fully realizing intended benefits at this time (scale of 0% - 100%)? Description should be limited to 600 words):*

Although the system has been in production for a limited time, Standley Lake staff has shared a number of benefits and efficiencies they have, or are expecting to realize.

Reduction of manual data entry has already estimated to save more than 100 hours of staff time per month.

The increased ability to accurately track vehicle, equipment and radio usage has improved oversight and accountability for the status and condition of physical assets.

The increased accuracy of data across all activities has dramatically increased the efficiency and effectiveness of management and regulatory reporting.

The application greatly improved staff communication by being better able to monitor who is on duty contact them directly through the app.

The efficiencies and process improvement realized by this project translates directly into being able focus more resources on patrolling the park, implementing park projects and additional

coverage for ensuring the integrity of the Aquatic Nuisance Species protection program, all which enhance the services provided by the Park Rangers.

Standley Lake staff and the IT team have established am ongoing partnership for the continuous improvement of the Standley Lake Rangers Activity Management System.

Future enhancements will be focused on expanding reporting capabilities, direct integration with additional enterprise systems and increasing staff safety in the park by real-time tracking of ranger locations through the mobile application.

The benefits from this project extend beyond the Standley Lake system. Because of the authentication, communication and other features created for the native mobile application, that source code is being repurposed as a standardized platform for rapid development of additional custom mobile applications.

Partnerships *(Please elaborate on any internal or external partnerships were involved or developed during the course of project implementation):*

The project team consisted of the lead software engineer for the IT Software Development Team, the IT department's main business analyst, the IT mobile device management specialist and the administrative team at Standley Lake.

Key to the success of this project was the partnership between the City of Westminster's team and the group contracted develop the native mobile application, CityGovApp. This contractor had been engaged several years ago to create mobile applications for the city's asset management system. The languages and platforms we asked them to use for this project were new to their development team and the request for the city to own the source code at the end of the project was unique.

References *(Please provide a third-party reference who can speak from direct experience about the benefits of the project or system. Citations to any available publicly accessible information such as web sites or news releases would be great):*

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