Case Study: Custom Built Mobile Application for Colorado Parks and Wildlife

2017

About Istonish

For nearly three decades Istonish has helped companies build, hone and helm their IT—keeping them at the forefront of their industry. We believe that the best technology solutions stem from curiosity, collaboration and expertise. That's why with Istonish, you don't simply get technicians—you get technology leaders.

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Customer

Colorado Parks and Wildlife (CPW) is a nationally recognized leader in conservation, outdoor recreation and wildlife management. The agency manages 42 state parks, all of Colorado's wildlife, and more than 300 state wildlife areas.

Summary

Aquatic Nuisance or Invasive Species (ANS/AIS) have the potential to cause a tremendous amount of damage to federal, state, local and municipal waterways. Not only do they threaten the biodiversity of native species, they also cause permanent environmental issues, create dangerous public health threats, and have major economic impacts to local industries. These foreign species can be introduced and spread by watercraft. Prevention and containment of these invasive species is a high priority for protection of public resources. Istonish, a leading provider of IT solutions for the State of Colorado, assisted Colorado Parks and Wildlife in developing an innovative technology solution that greatly strengthens their ability efficiently collect and share information which reduces the risk of AIS being introduced into state waterways by recreational watercraft.

Challenge

Colorado Parks and Wildlife implemented a broad partnership-based mandatory watercraft inspection and decontamination program in 2008 as a response to detecting evidence of zebra and quagga mussel veligers in the state. In many cases, once an aquatic nuisance species gets into a body of water, it is virtually impossible to eradicate. Treatment can cost millions of dollars in maintenance and downtime to dams and water facilities. Preventing the spread of ANS is the best approach. Colorado State certified inspectors and decontaminators conduct inspections on watercraft entering state waters. While performing inspections, data is collected regarding the date, time, risk assessment, inspection type, decontamination type if applicable, and results. Data is used to communicate risk across jurisdictions, as well as for analysis and reporting purposes. Large amounts of valuable data are collected for analysis and used for decision making to prevent the spread of ANS. In 2016, a total of 20 boats contaminated with adult zebra or quagga mussels have been intercepted from out of state. The infested vessels were intercepted at:
• Horsetooth Reservoir
• Blue Mesa Reservoir
• Pueblo Reservoir
• Shadow Mountain Reservoir
• Chatfield Reservoir
• Vallecito Reservoir
• Turquoise Lake
• Navajo Lake
• Highline Lake
• Carter Reservoir

"We rely on the Watercraft Inspection and Decontamination (WID) data sharing system to keep our boat inspection data organized, timely and accurate… It's a game changer for this program,"

Gene Seagle, Aquatic Invasive Species Coordinator
Curecanti National Recreation Area

The majority of infested watercraft come from western waterways such as Lake Pleasant (AZ), Lake Havasu (AZ-CA), and Lake Texoma (TX-OK). However, many of the watercraft traveled from the Midwest (WI, MI, IL, OH, IN). Communication across jurisdictions is critical to effectively protect waters from infested states and federal agencies. There were two major problems:

1. Outdated Technology. The technology that was being used was outdated, costly, and could not easily be shared, updated, or modified.
2. Inefficient Processes. The use of outdated technology and paper records caused data not to be easily shared, recorded, or analyzed. These problems caused major delays in reporting, errors in the data, and inaccurate and outdated reports.

Solution

Solution Gathering the Data. After reviewing the process and technology that the department was using, Istonish recommended a cost effective data handling solution. To improve the process, Istonish built a custom mobile application that works with most iOS or Android devices. This use of mobile devices (mostly tablets), allows CPW to tap existing infrastructure, eliminate the need for proprietary equipment, and reduce the cost to administer this vital program.

Solution

Handling the Data. Gathering the data is only half of the battle. Accurately and efficiently transferring data into the centralized system is the key to the solution. New inspections can be uploaded to the server and users can enter inspections directly via the website or by using smart devices. The system also has the ability to transfer old inspections into the new system, making it easy to provide a comprehensive summary and analysis of all available data over a longer period of time.

Accessing the Data. Data is accessible through multiple smart devices (notebook, desktop, tablet, etc.). The desktop version includes powerful features like: the ability to search, create, edit, and delete inspections. It also has the ability to upload, validate, and import inspections from Excel. The new program also includes user account maintenance, SQL Server Reporting Services, and the ability to create, transfer, and import files from this database at any time. Finally, the application also works offline, so working in the field is not a problem.

Results

By utilizing the WID Data Sharing System, inspectors are able to assess the risk of watercraft and more efficiently share information about infected watercraft moving across jurisdictions in a timely manner. Further, through the implementation of a strong mandatory watercraft inspection and decontamination program, the continued inoculation of Colorado's waters has halted. The state de-listed seven of those waters two years ago. In 2017, CPW intends to de-list Pueblo Reservoir for quagga mussels and return to negative status statewide for zebra and quagga mussels.