



The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization:
Washington Suburban Sanitary Commission (WSSC)

Organization URL:
www.wsscwater.com

Project Name:
WSSC Mobile

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

The water utilities industry is facing substantial issues in the coming years relative to availability of clean drinking water, aging distribution and wastewater infrastructure and a flawed financial model that does not reflect the true value of what it takes to deliver fresh water at high reliability to every U.S. citizen's home. The consumer has further developed an expectation that water availability is simple, efficient and always on at a moment's notice. With critical infrastructure rated a D by the American Society of Civil Engineers, it is very important that we begin to address the criticality of the situation and a starting point is with educating the consumer and getting the consumer involved in enabling a proper solution. By historical standards, the only communications the water utility has with their customers is when something goes wrong. WSSC is on the forefront of correcting that perception and has recently become the first water utility in the nation to release a mobile app that runs on smartphones and tablets of our customers. The app allows customers to pay their bills, report problems, obtain a map of current problems in their area (using the GPS), to take pictures of any observed problems or potential problems and submit all of these things without having to wait for assistance on the phone. Once a problem is submitted, it becomes visible to the customer on the status and map of current problems in their area. It will take time to measure the success of how well we have improved upon our direct relationship with the customers, but to date the response has been significant. The day of release saw nearly 750 downloads of the app and after this first four months, there are nearly 2,500 Android and iPhone downloads and an equivalent number of BlackBerry downloads.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

Instead of investing in new products, we leveraged existing infrastructure, which runs on an industry-standard Web and GIS architecture, ESRI's Arc-GIS suite for spatial applications, IBM's WebSphere suite for all J2EE applications, and Oracle for our RDBMS. We didn't have the resources to create multiple versions of the applications using various development languages. Instead, we used an open-source library-wrapper framework with compatible technologies for design and functionality, including JQueryMobile for screen navigation and design; the JavaServer Faces MVC framework for business logic process; Dojo framework for asynchronous calls; and Objective-C (iOS), the Android and BlackBerry API to create application wrappers for iPhone, Android and BlackBerry devices, respectively. Our open source framework minimized our platform-specific programming while enabling us to deliver a device-specific user experience. Using the technological mix, the app can support and run on numerous devices, including Android phones and tablets, iPhones and iPads, Blackberries, Torch 9800 and Style 9670. With an anticipated distribution potential of nearly 2 million devices, this approach will minimize the cross-platform support challenges that one would normally expect with such a broad array of devices and also enables updates as we expand the system capabilities and functionality going forward. The biggest technical challenge revolved around integration with legacy back-end systems as well as pre-existing business processes, especially in the customer support and work order management area. For an app to be successful, the customer must be motivated to provide us their input and be willing or have an interest in monitoring how WSSC is performing. That motivation comes from direct and immediate feedback that is operationally meaningful. It is insufficient to just confirm receipt of a problem report. The customer must witness operational impacts as a result of their involvement.

Please list the specific humanitarian benefits the project has yielded so far.

Water is the most misunderstood asset on the planet. Customer expectations in the U.S. are that water will always be readily available at very low cost. The reality is quite different, as critical infrastructure is rated D by the American Society of Civil Engineers. It is aging and failing at ever increasing rates. The costs of delivering clean, fresh water are rising. Water is necessary for life, and cities/civilization wouldn't exist without it. It is vitally important that the 21st century water utility better connect with their customer, educating them on these realities and enlisting their aid in avoiding what could be dramatic problems facing us as a society. By meeting customers on their turf in the social media/mobile app arena, we offer an even more immediate and intimate channel through which to engage the customer. There are three key objectives to this program in terms of measuring success on that basis. First, Jerry Johnson, General Manager, perceives of WSSC's customers as investors. This app enables those "investors" to have visibility into the operation much like a dashboard, on how well WSSC is doing in managing the precious water resource as well as how well WSSC is doing in maintaining a viable service model. It allows for feedback into how operations might be improved and enables our investors to participate in their water utility in that sense. Secondly, WSSC delivers fresh drinking water to a very large geographical area of over 1,000 square miles. It would be extremely costly to cover the entire territory all the time with inspectors, and in the past this challenge has manifested in the form of an overflow of emergencies. By engaging our customers, we expand our inspector forces by up to 1.8 million and get them involved in the process.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

We expect to have about 150,000 mobile app users by the end of 2013. WSSC is the first water utility to release such an app to benefit its customers. This was reflected in one Android user's comments, rating it at 5 stars: "joe on December 3, 2011 (Motorola Droid II with version 6) What I need to know and do with my water co! An app from my water co? It does what it needs to do for an app of my water co." Overall, the ratings have been overwhelmingly positive from users. In the latest releases after initial implementation, it has been all 5 stars from 6 customers on Android. Single-star ratings were received by 3 customers right after initial release due to a few remaining bugs that have since been worked out and the fact that the initial release did rely more heavily on the mobile version of the website as opposed to full app integration. This is no longer the case, and it is fair to say the post-release versions are 100% 5-star rated. While it is too early to measure specific benefits, within the customer contact center, we anticipate reductions in call volume and call-handling times and the near elimination of routine customer requests that can be more easily handled through the mobile application. Quicker incident reporting will lead to faster repairs, dollars saved and better service for the community when it comes to water incidents and emergencies. The app was selected by the International Academy of the Visual Arts for two 2011 W3 Silver Awards. The W3 Awards honor outstanding Websites, Web Marketing, Web Video and Mobile Apps created by some of the best agencies, designers and creators worldwide. One is in the category of Innovative/Experimental and one for productivity.