The Connected Customer Experience: Building Tools That Make it Easy

Overview

More than ever before, businesses are relying on connected data and the internet of things to communicate and share information so that we may make intelligent decisions about day-to-day operations and activities. Historically, software and desktop applications have been developed and used in silos with information traveling in relatively predictable routes from user to application and from application to user.

As we entered the era of mobile applications, the approach to application development changed along with consumer needs. Going mobile requires access systems from anywhere using your mobile device. Application connectivity improved, as did the integration with multiple legacy systems – ERPs and CRMs that include SAP, Oracle, Epicor, Salesforce and more – which gave users more power and high-level integration to the data they were seeking.

Today, we are building deep applications that include these integrations with legacy systems, but are on a different scale of complexity. The rapid adoption of cloud-based and machine-to-machine communication makes networked connections more valuable than ever before, and brings together people, data, objects and the processes that rely on all of these factors and makes them an ordinary part of everyday lives. These new applications are connecting users with secure data sources, but also harnessing complex computation algorithms, connecting machines to machines, and building systems on top of the data these connections make possible.

bitHeads has been at the forefront of enablement for these types of applications, working with customers in the financial, manufacturing, and retail sectors to develop engaging experiences for users while managing the integration of complex technology and system requirements behind the scenes.

Driving Collaboration and Innovation with Nortec

Like many organizations that rely on a large, distributed sales force, Nortec, a global leader in humidification technology, had developed a desktop tool that aided in the identification of requirements and assisted their sales force to recommend ideal customer-focused solutions. As their business, and the needs of their channel, grew more and more sophisticated, requirements for updates to shared content increased in frequency and the demand for application availability from any internet-available location grew rapidly. External engineers and channel representatives needed access to data from anywhere - their offices, on the road, and in the field at client sites - and access to important product information at release, rather than waiting for periodic software updates, was essential. In addition to a system that provided cloud-based access to this information, they were also seeking a more user-friendly experience that would allow users to easily understand the system with little to no advance training.

In addition to this collaborative, online tool for their sales force, Nortec was also searching for a way to connect customers to a secure online remote alert system that would allow them to monitor and maintain optimal operating conditions for their essential humidification system installations. Their goal with this application was to service large customers for

whom the humidification systems played a key role in day-to-day operations, such as datacenters, Commercial and Industrial buildings, and customer sites where such a process was already occurring manually.

In order to meet the demand for these services, and without an internal development team who could tackle these projects on their own, Nortec turned to bitHeads for assistance.

Building for the cloud

In the 90s, Nortec had partnered with an external development team to create and maintain a desktop application for the Windows platform, designed to accomplish a few essential tasks. It would be an indispensable tool for their sales team, which was a combination of regional sales executives and third-party channel members. The tool, called *Help*, was an essential resource, assisting the sales channel and consulting engineers to determine the size of the opportunity and equipment required for a given space, and determine costs. As a desktop application, it was well accepted across the channel and remained in active use for about twelve years.

In the late 2000s, Nortec began looking at the future of this tool, understanding that the technology space had changed and that information their channel and consulting engineers needed was now accessed in very different ways than it had been in 1998. They knew that building a persistent web-based application was the way to go and set out to build this new application in partnership with the original development firm and with the goal of making Nortec "the easiest company to do business with". After much investment

of time and funds, the Nortec team came to the realization that in order to meet their goal, they would need a new team to breathe life into their web-based application. They spent six months in discussions with development partners across North America and in the end, selected bitHeads as the best fit.

> *"bitHeads has been an absolute pleasure to work with on this project. They have been very responsive to our needs, even as our needs changed throughout the course of the project itself. Additionally, they have demonstrated their considerable expertise and were able to help us make the correct technology decisions to provide a solid foundation for the product."*
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> Nicholas Lea, Global Product Manager, Nortec

This decision was based on a number of factors: proximity, with bitHeads and Nortec both having their primary offices in the same city; strong confidence in the account and product management teams; and an ability to leverage some of bitHeads strategic design partners early in the process to assist with user experience strategy. In addition, the broad range of expertise that bitHeads possessed provided great future potential, meaning that should Nortec continue to expand the application in future or have other development requirements, they already had a substantial and effective partnership in place.

Based on these requirements, and working in close partnership with the team at Nortec, the team from bitHeads quickly got to work developing an innovative, cloud-based application that would support Nortec's complex reseller network. The initial phase of the project, launched in 2012, would include two core functions of the software: a product

catalog, which provided rich detail to consulting engineers and sales staff, as well as a load sizing/product selection wizard, which assisted users with easily determining correct options for each environment.
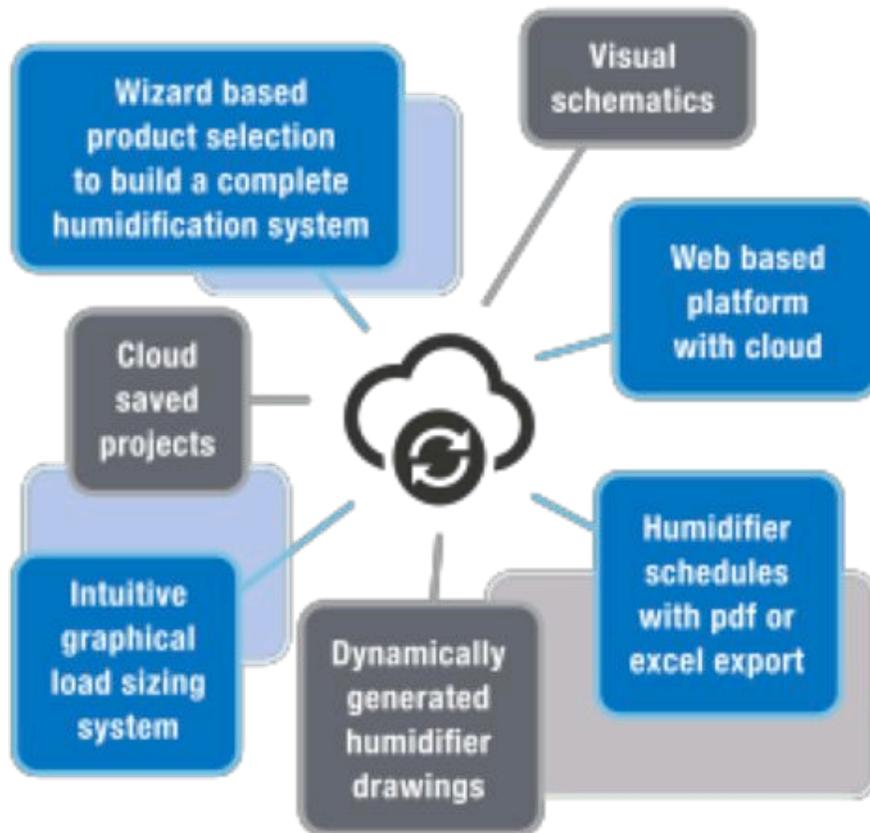
Additional features, such as customer address management, dynamic drawings, and integration with SAP, Nortec's ERP system were forecasted for phased development and scheduled for release within 12 – 16 months. The phased approach made the most sense for this project, as the development teams were able to continuously work on new features while addressing any issues and user feedback from the system.

Ultimately, the goal for this application was to make it the central interface with which sales agents and consulting engineers are able to interact with Nortec, placing orders, accessing

the latest product information, and even connecting with the devices installed at customer locations to manage alert systems and monitor maintenance requirements. There are also a number of benefits to Nortec's internal teams as well. The implementation of *Help* resulted in sales orders transitioning from a manual entry system to being processed entirely online. This improved overall data accuracy in order entry and also freed up time and resources in their customer support team, which allowed the team to invest more time and energy into addressing support calls and improving overall customer satisfaction.

The launch of the product was well received overall, with many users praising the simplicity of the product selection wizard. With user feedback collected during the first few months of release, the team was able to revisit the application and make continued, iterative improvements that improved usability and led to further adoption of the tool over the old methods of quotations and calculation formulas.

Since the launch in 2012, thousands of users have registered for the system, creating more than 9000 projects. Continued development and partnership between Nortec and bitHeads is ongoing, with future phases of this product scheduled for release in the fall of 2013.

Innovative Sensor & System Monitoring

In addition to the development of *Help's* core features, a parallel monitoring system was also being developed that would serve as next logical step in providing Nortec client's with world class support and implementing their vision of creating an end to end lifecycle product and client management platform. The secure, online, remote monitoring solution

pairs nicely with the *Help* platform and establishes, monitors and maintains optimal operating conditions for Nortec installations. Providing access for up to five satellite contacts allows building owners, service contractors, customers, and consulting engineers to manage equipment from any location worldwide using just a standard Internet connection.

The goal of this system was to reduce the number of on-location visits required by Nortec and service providers. It also simplifies the process of determining whether any system maintenance is required, with the added benefit of increased spare parts ordering. In addition, Nortec engineers would now have access to an almost unlimited stream of data that would give them insight into system behaviour and the opportunity to determine where opportunities to improve efficiencies existed in active, installed environments. Since bitHeads had a significant level of expertise developing machine-to-machine systems, this project was a natural extension of their talents. The development of this type of tool, while typical in heating and cooling markets is still relatively new in the humidification market. Nortec would be the first to offer a connected system that was seamlessly integrated with the devices that they manufactured, and freely available to their customers.

Ultimately, the goal for remote monitoring is to include it as a component of the wider range of features available in Nortec's *Help* tool, ensuring customers and their partners have easy access to all the information that they need from a straightforward and easy to use system. A differentiating factor among the competition, these types of offering will help Nortec stand apart from the crowd and ensure their continued success as an industry leader.

About bitHeads

bitHeads, Inc. is a custom software development firm that has been delivering scalable & secure applications for more than 18 years. These applications aggregate large data sets, analyze information and provide multi-screen experiences across a variety of platforms that include mobile, tablet, game consoles, desktop and cloud as well as unconventional screens such as SmartTVs and set-top boxes. Our team builds games, cloud and back-end infrastructure along with mobile, big data & M2M solutions. Learn more at www.bitheads.com.

About Nortec

With over 40 years of experience designing and manufacturing humidification solutions, Nortec products are found in a wide variety of commercial, industrial, and residential applications. To this end, Nortec draws upon extensive experience to develop an ever-growing line of products manufactured to stringent ISO 9001:2008 certified quality standards.

Having a reputation for superior quality humidification systems, engineers and building owners rely on Nortec for a complete range of humidification solutions including electric steam, subsonic fogging, high pressure fogging, evaporative media, direct steam injection, steam exchange and gas-fired technologies.