Field investigators improve accuracy, efficiency, and professionalism with mobile forms

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—Doug Edwards, Project Technician, Office of Pesticide Services, VDACS

Field investigators in Virginia's Office of Pesticide Services used to lug around reams of paper. Now they carry tablet computers loaded with digital forms created by Mi-Corporation. By using a mobile solution based on the Windows operating system and Mi-Forms software, inspectors have improved data accuracy and efficiency and boosted the public's confidence in their work. The agency saves thousands of dollars a year on paper-related costs and IT consulting fees because its staff can update the forms themselves.

VIRGINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

Virginia Department of Agriculture and Consumer Services

440 employees
www.vdacs.virginia.gov
United States
Government—public administration

Company profile

The Virginia Department of Agriculture and Consumer Services promotes the economic growth and development of Virginia's agricultural sector and offers environmental and consumer protection services.

Partner profile

Mi-Corporation
www.mi-corporation.com

Microsoft

Break the paper paradigm

Robert Christian tossed his 40-pound bag into the front seat of his 100-degree truck, climbed in, and mopped his brow. Three more inspections to go, followed by assembling and packing up the day's forms and mailing them in for data entry. Another long day.

Christian is a pesticides investigator for the Office of Pesticide Services in the Virginia Department of Agriculture and Consumer Services (VDACS). He's responsible for inspecting all the pesticide retailers, wholesalers, and service businesses in the southeast corner of Virginia to ensure that they are properly licensed and their applicators certified and following the rules. He also conducts investigations of pesticide accidents and alleged pesticide use abuses.

For years, Christian's and his colleagues' lives were awash in paper: thousands of completed state and federal forms that they stored in rolling file cabinets—also known as the bed of their trucks—as they traversed their regions. Their paper-based workflow was mired in all the usual problems: inaccuracies stemming from handwriting, mailing in forms, administrative time spent keying in handwritten data, and the physical work of lugging around pounds of paper.

"In Richmond, we have databases full of information that our investigators didn't have immediate access to," says Jeffrey Rogers, Environmental Program Planner in the Office of Pesticide Services. "We wanted to give them better information at the point of inspection."

Go digital

VDACS staff knew that their department was decades behind the times, but money is always tight in government. Then, in early 2012, Rogers and Liza Fleeson, Program Manager in the Office of Pesticide Services, attended a conference and saw a demo of a slick solution for digital forms used by the North Carolina Department of Agriculture's pesticide office. "When we saw that application, we knew that we had to have it," Rogers says.

The application software, Mi-Forms, came from Mi-Corporation, a maker of enterprise mobility solutions. Rogers and Fleeson worked to secure initial funding through a grant with the US Environmental Protection Agency (EPA) to develop a similar solution for Virginia and other nearby states. VDACS hired Mi-Corporation, and within a few months had replaced its outdated paper workflow with a digital solution that runs on mobile devices.

"Mi-Corporation makes solutions for all kinds of devices, but we selected Windows-based devices because Windows is the operating system supported by our state technology organization," says Doug Edwards, Project Technician in the Office of Pesticide Services. Virginia's Mi-Forms application passes data from the agency's HP Revolve 810 convertible laptops to a Mi-Corporation middleware server running Windows Server and Microsoft SQL Server. From there, it passes into the state's Oracle databases.

Instead of packing piles of paper, Christian today carries only a lightweight convertible laptop. When he arrives at an appointment, he launches a Mi-Forms master form. When he enters a customer's name, the form autopopulates with all the necessary information stored in the state's central databases, even if he's not connected to the Internet.

Depending on which inspections he's doing, Christian taps various boxes on the master form—then the appropriate secondary forms open, all prepopulated with data. The Mi-Forms application prompts Christian through the subsequent steps, ensuring that

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■■ Microsoft

nothing gets missed. He can enter information using the laptop keyboard, the soft keyboard in tablet mode, or the stylus.

When the inspection is complete, the customer signs the form or forms digitally, and Christian creates an Adobe PDF file that he emails to the customer as soon as a connection is available. He also sends the form to Richmond, where it is reviewed, approved, and used to update the master databases.

Capture better data, boost public confidence

With access to current customer, pesticide, and regulatory data, field inspectors can produce more accurate reports using the new digital system. "Instead of handwritten forms that were often difficult to decipher, our finished reports are much more professional-looking and easy to read," Rogers says. "We also have a better audit trail of inspections in the event that a case goes to court or the EPA asks for it."

Edwards adds that accuracy and professionalism are critical in earning public trust. "By putting modern tablets in the hands of our investigators, who are the face of VDACS, we improve our reputation and standing in the public eye," he says.

Work more efficiently

Most VDACS pesticide investigators have been with the agency for many years, and Rogers and Edwards worried at first that they wouldn't take to the digital solution. They were wrong. "Feedback has been extremely positive," Edwards says. "The people I thought would have the hardest time converting to digital were able to easily adapt."

Investigators are thrilled at being relieved of onerous manual form completion, and they appreciate having extra time to make better use of inspection windows and fit in more appointments each day. "Instead of spending 30 minutes of a 60-minute inspection filling out forms, inspectors spend 10 minutes on forms, which increases the quality of time spent onsite," Edwards says.

Answer questions faster, make constant improvements

VDACS has just begun to use Mi-Analytics, the Mi-Corporation module that lets users query, report on, and visualize their data. Today, department staff can ask, "How many inspections have we done on pesticide ABC this year?" or "How many violations has XYZ Pest Control had this year?" and get an immediate, easily understood response.

"Previously, it could take weeks of tedious manual review of paper forms to fulfill information requests, or at times we simply couldn't respond," Rogers says. "Now we can answer questions in minutes."

The Mi-Forms software is so straightforward to use that the Pesticide Services team can tweak its forms whenever it wants—without relying on expensive IT consultants—and its digital process is the envy of other VDACS program teams. "When they see it, their reaction, like our original reaction, is, 'We have to have it,'" Rogers says.

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