



Office of Information
Technology Services

New York State Mobile Application for Plant Inspections

Project Initiated: Fall 2015
Project Completed: Spring 2016

Category: Information Communications
Technology (ICT) Innovations

Nomination Submitted by:
Robert Samson
Chief Information Officer
New York State

Contact:
Giovanna Joseph
ITS Recognition Coordinator
NYS Office of Information Technology Services
Giovanna.joseph@its.ny.gov
518 – 427 - 9750



New York State Mobile Application for Plant Inspections

Category: Information Communications Technology (ICT) Innovations

EXECUTIVE SUMMARY

The New York State Chief Information Officer and Office of Information Technology Services (ITS) is charged with re-imagining New York State's decentralized approach in administering IT services across the state enterprise. Over the past several years, ITS has implemented solutions to manage IT systems more efficiently and effectively, and shared resources to meet increasing demands and lower statewide operating costs.

A top priority for ITS is to transform the way government uses technology to conduct business. ITS works closely with state agency partners to develop technology solutions that best meet their needs, while at the same time finding efficiencies in the important work they do for the State of New York.

Out of a recent partnership with the New York State Department of Agriculture and Markets, ITS developed the groundbreaking **New York State Plant Inspections Mobile Application for Plant Inspections**. The app streamlines the inspections process for the Department's nearly 4,500 inspections of nurseries, greenhouses, and retail markets where plants and flowers are grown and sold. The app greatly improves the accuracy, efficiency, and consistency of these inspections.

Prior to the development of the **New York State Plant Inspections Mobile Application for Plant Inspections**, completing plant inspections, which are required every three years to comply with federal regulations, was a burdensome process. Previously, the Department Inspector completed plant inspections using only paper. This cumbersome process often meant traveling to locations with large stacks of Excel spreadsheets, using paper and clipboards out in the field, and then trying to log notes after the inspection into an electronic system.

ITS staff worked closely with Department staff to understand these issues and design the app over the course of 18 months. This development process included a series of regular meetings, as well as visits into the field with Department inspectors to gain a better understanding of their needs.

The resulting innovative **New York State Plant Inspections Mobile Application for Plant Inspections** allows the Department more than 35 horticultural inspectors to electronically log and file all-inclusive inspection reports and deliver reports from the field to headquarters in real time. The app also provides comprehensive reports with additional features like attaching photos to inspections, which allows the Department to better track and respond to potential threats to the State's plant industry. In addition, the **New York State Plant Inspections Mobile Application for Plant Inspections** promotes increased communication between field staff and program managers and quicker analysis of inspection results.

New York State Mobile Application for Plant Inspections

Category: Information Communications Technology (ICT) Innovations

Overall, the **New York State Plant Inspections Mobile Application for Plant Inspections** has drastically cut down on paper usage, increased the efficiency of inspections, and improved business processes throughout the agency. Furthermore, the application and process used to design it will serve as a valuable model for future mobile inspection apps commissioned by other state agencies.

CONCEPT

ITS partnered with the Department of Agriculture Markets to develop and launch the groundbreaking **New York State Plant Inspections Mobile Application for Plant Inspections**. The close collaboration between ITS and the Department was essential in launching such a valuable app, which greatly improves business processes and overall efficiency and accuracy for inspectors.

ITS is broken into clusters that service a specific subset of agencies. Thus, one aspect that makes this collaboration unique is that the cluster that built the Department app is not the cluster that services the agency directly. To build the **New York State Plant Inspections Mobile Application for Plant Inspections**, the Enterprise Business Solutions Cluster (EBS) employees first fully immersed themselves into Department inspections. They met regularly with Department business staff, took to the field with actual Department plant inspectors to gain a full understanding of the needs of the folks who would be using the app in their daily operations, and collaborated throughout the project with Department management, who took an active role in making sure the app suited the Department's needs.

The project was first identified due to the burdensome process of completing plant inspections. Previously, the process of completing a plant inspection for a plant grower or plant dealer was nearly completely paper based and very cumbersome. Plant inspectors had to first find their inspection location by sifting through large printed Excel documents which they received at regular intervals. Once their location was identified, they recorded the inspection in the field using clipboards and paper. The inspectors issued paper records of their inspections to establishments and sometimes provided printed documents and guides as supplementary materials, which were kept in stacks in their vehicles for safe-keeping. Finally, following the inspection, the inspectors sent their reports to a central location where the results were logged into an electronic system. Due to federal regulations, this process must be completed at least once every three years for any establishment selling or growing plants.

Based on the process to inspect plant growers and dealers, the team identified many pain points that could be improved using cutting edge mobile technologies. The team knew, above all else, that the mobile app should remove the need for inspectors to log their results into a separate system and that the app needed to have the ability to operate with, or without, an internet connection. If the app could operate without an internet connection, the inspectors would be guaranteed access to the app while inspecting remote locations without having to worry about whether their results would be saved and properly stored.

New York State Mobile Application for Plant Inspections

Category: Information Communications Technology (ICT) Innovations

To learn more about what actually goes on during an inspection beyond the standard business requirements being shared by the Department business staff, the ITS employees decided it would be beneficial to go into the field with inspectors. ITS employees joined Department staff on two different trips to observe the plant inspection process. These experiences enlightened ITS staff and sparked additional ideas and functionalities not originally envisioned, which greatly improved the mobile app.

On one trip, the attending ITS employee visited a large commercial store with an inspector. The first thing he noticed, before the inspector had even decided on a location, was that the inspector had a hefty stack of printed Excel sheets that she had to sift through to look at data and ascertain what location would be most optimal to examine on a given day. She had to look through these printed documents and examine which locations had recently been visited, might be due a visit, might have had infractions, and more, before making her own decision about where to go and what to do.

Observing this behavior and considering that locations are required to be inspected at least once every three years, ITS recognized the need for the app to also provide optimized inspection locations based on factors identified by the Department of Agriculture Markets. This update to the list of needed features was quickly noted and added to the **New York State Plant Inspections Mobile Application for Plant Inspections** requirements.

On the second trip, the ITS employee visited a plant dealer with an inspector. He was especially struck by the amount of paperwork, guides, and informational material that the inspector had to carry around with him in the trunk of his car. This sparked the idea that the app should also contain reference materials to help make the inspector's job easier and more streamlined.

Additional technologies added to the project included the ability to add photographs to inspections, annotate or draw on satellite and inspection images, scan item bar codes, print wirelessly to thermal printers to provide establishments with printed inspection results, and utilize automatic form fill capabilities to reduce entering redundant information repeatedly on forms.

New York State Mobile Application for Plant Inspections

Category: Information Communications Technology (ICT) Innovations

SIGNIFICANCE

Throughout every phase of the **New York State Plant Inspections Mobile Application for Plant Inspections** project, ITS personnel engaged with Department business staff and inspectors, who established and maintained a close relationship. The two groups collaborated over the course of about 18 months through regular meetings, visits with inspectors in the field, and constant communication to ensure the final product suited the needs of the Department while significantly improving the inspection process using the latest useful technologies. By working hand in hand, the two entities were able to develop a state-of-the-art mobile inspections system that improved many aspects of the inspection process from start to finish.

Another innovative change made by the **New York State Plant Inspections Mobile Application for Plant Inspections** is the way the app integrates with necessary federal forms, in addition to maintaining an accurate inspection record. In the past, inspectors needed to fill out a federal form PPQ391. The form is a truly complicated and unattractive PDF. In the past, inspectors would fill out the form by hand with all the necessary business information if they wanted to test something. Now, utilizing the new **New York State Plant Inspections Mobile Application for Plant Inspections**, the information needed for the PPQ391 can be automatically transferred into the PDF and the inspector can add only the necessary notes and updates required to complete the form electronically. The partnership allowed the best technology to increase the overall effectiveness and efficiency of the agency.

IMPACT

The **New York State Plant Inspections Mobile Application for Plant Inspections** is now being utilized by over 35 inspectors across the State of New York. Additional functionalities are in the works and inspectors are hoping to add commodities to the inspection app in the future. The mobile app has been so successful that ITS is in discussion with other Department divisions on how other divisions could benefit from similar inspection mobile apps to improve their processes.

Inspectors are now able to quickly and easily identify establishments that need to be inspected. Such as:

- **Greatly reduce paper documents**
 - Guides and reports related to plant inspections in their vehicles, no longer need to separately log inspections into a separate digital system.
- **Standardized Inspection Forms**
 - Pre-filled standard information regarding inspection records, have establishment information changed in the field that will also automatically change in the backend system, print wirelessly in their vehicles.

New York State Mobile Application for Plant Inspections

Category: Information Communications Technology (ICT) Innovations

Overall, the **New York State Plant Inspections Mobile Application for Plant Inspections** has drastically cut down on paper for those who are using the app, increased the efficiency of inspections, and improved business processes throughout the Department. The design of the app and technologies utilized will pave the way for future mobile inspection apps for other state agencies.

The **New York State Plant Inspections Mobile Application for Plant Inspections** encompasses groundbreaking technology to deliver the best possible tool for Department inspectors. Entire processes have been shifted to the new digital inspections platform that removes paper from the actual inspection process, removes the step of logging an inspection digitally after it has happened in real life, and adds features like photo upload, barcode scanning, automatic fill, digital signatures, and more. Some of the features and benefits are outlined below:

Plant Grower/Dealer Inspection Mobile App Features:

Application

- Secure login for the registered inspections
- Automatic form fill
- Auto-syncing with Backend Licensing System
- Automatic update of the Department system inspection records with inspection data
- Color coded (red/yellow/green) list of inspections based on the due date status
- Offline capability
- Geolocation capability

Inspectors

- Use fingerprint to log into the application
- Access interactive maps and directions to reach the assignment location
- View satellite images of the inspection site
- Annotate or draw on the satellite and inspection images
- Scan item bar code during inspection
- Add photos to inspections
- Print in field with wireless thermal printers
- Auto-generate federal forms (PPQ391)
- Sort and filter assignment list
- Sign forms digitally
- Access technical inspection manuals on device
- Access web based administrative support site

Supervisors

- Assign/reassign inspection locations
- Approve/reject inspections

New York State Mobile Application for Plant Inspections

Category: Information Communications Technology (ICT) Innovations

New Hardware for Inspectors:

- iPads with secure access to the mobile app for authorized users
- Wireless thermal printers for vehicles

Recent Inspection Improvements:

- Inspectors can view prioritized inspection locations electronically and sort/filter assignment lists
- Supervisors are able to assign/reassign inspection locations
- Supervisors are able to approve/reject inspections
- Inspectors can issue a copy of the completed inspection report via a wireless printer
- No need for inspectors to carry around extra printed materials
- No need for inspections to be recorded into a separate system after the inspection
- Updates made to the establishment record are also made in the backend licensing system
- Application can be used online or offline

This is a truly innovative project that will greatly improve the plant inspection process for New York State inspectors. This project is also a key example of the efficient and cost effective solutions cross-agency partnerships enable.