Subway Station Construction for Large Metropolitan Transportation Authority



NDUSTRY:Transportation & ConstructionJSE CASE:Offline & Mobile Project Management

A construction firm contracted by a large metropolitan transit authority streamlined the closeout process for the city's megaproject – the construction of new subway stations – with rich offline access to SharePoint on iPad's when deep underground.

"This was one of the largest mega-projects of any U.S. city. We're not aware of any other project like ours, where they were able to streamline the observation closeout process like we did. The owners of the construction company are very happy with what we achieved with SharePoint and Colligo Briefcase."

– James Tsao, IT Manager & Project Consultant

Introduction

The new subway project was the city's first major expansion of the subway system in over 50 years. One of the biggest mega-projects in any U.S. city, it involved building 16 new stations in a new line that stretched 8.5 miles long. Managing mega-projects requires a robust mobile content management platform. For Phase 1 of the project, which involved construction of four stations, a large construction firm joint venture implemented SharePoint. However, while deep underground during construction, connectivity was a major issue. They needed a way to close out massive lists of project observations while disconnected. For rich offline access, they chose Colligo Briefcase for iOS.



Business Challenge

For each new station, the construction firm had to work with the transit authority to build an "observation list" – a roster of items observed in each room during field surveys that required further contractor work to meet final specifications. As part of the closeout process, each observation had to be addressed by the construction firm, reviewed by the transit authority and closed by an inspector. During construction, a station can have thousands of observations. "While we started with 20 iPads, we grew to over 160. Users were really happy that they could go into a room onsite and see all the observations that needed to be closed in the palm of their hand. They reported that the new closeout process was great."

– James Tsao, IT Manager & Project Consultant Previously, documenting the closeout process on paper took weeks. For this mega-project, the construction firm president sought to streamline the closeout process on iPads. James Tsao, the IT manager and consultant on the project, was charged with finding and implementing a solution.

James first looked into purchasing off-the-shelf software designed specifically to manage construction projects. Not only was this option highly pricey to purchase and customize, it did not provide 100% offline access – a top priority for the subway project. An internet connection was simply not available underground during the construction of the new stations.

In addition to leveraging his current investment in Microsoft, James preferred how SharePoint could be quickly customized in-house to meet their unique project requirements. However, he needed to resolve the offline access challenge.

Solution

James deployed Colligo Briefcase for iOS to cost-effectively mobilize observation lists to enable an offline closeout process.

Colligo Briefcase provided access to their SharePoint project content on the go. Prior to going onsite, engineers and inspectors synchronized current observation lists to over 160 iPads. While onsite, they could open list items, review metadata (like station number, room number, and description), ensure any deficiencies were addressed to meet specifications, and then closeout the observation. In addition to lists, engineers had access to drawings to support their onsite work. When back in the office, all updated and closed observation items were automatically synchronized to SharePoint.

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Systems Test Procedures	63St-00013 1 1/2" Copper Pipe going through ceiling to cooling towe	
Systems Draft Items Archive	63St-00014 1 1/2" Copper Pipe missing leak seal	
Systems Photos	63St-00015 Replace Heat Ttrace control module damage by water leak	
	63St-00016 Address Water Leak in Ceiling around the 3" Waste Line a	
	63St-00017 Concerte in Vent Bay Above 1 1/2" and 3" pipes not parg	
Observation List	63St-00018 High Pressure Line from High Pressure Wash Cabinets re	
Observation List	63St-00019 Remove Used Hangers, Anchors and Hardware for new o	
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"I'm not aware of any other solution that can provide such rich offline access to SharePoint. If two people edit an observation while offline, Colligo Briefcase makes it easy to resolve any conflicting changes when back online. I think it does a fantastic job!"

– James Tsao, IT Manager & Project Consultant Without Colligo Briefcase, the closeout process would have been much more labour intensive and time consuming. In a prior project that was completed without it, manually updating the observation list after each meeting took two weeks. A full-time staff member was required for data entry for each station.

For Phase 1 of this project, there were four subway stations under construction. All together they were at least four times bigger than any previous station, if not more. Yet with Colligo Briefcase deployed, there was no need for dedicated full-time data entry staff. IT used the Colligo Console to centrally deploy SharePoint sites to iPads. Engineers and inspectors used iPads to capture observation list closeout activities on a real-time basis. Rather than having to wait weeks, up-to-date closeout reports were available daily.

For the subway station project, dispersed teams of construction professionals could easily track the closeout process. Engineers and inspectors could see notes added by others and when an item was closed. James and his colleague achieved the construction firm president's vision of a streamlined closeout process on iPads.



"Colligo Briefcase was a very economical solution for us. We leveraged the current investment in SharePoint, and extended its offline capabilities for contractors working underground."

– James Tsao, IT Manager & Project Consultant

Results

Deploying Colligo Briefcase allowed the subway station construction team to fully digitize the closeout process within SharePoint. Significant efficiencies were gained by replacing paper-based processes with electronic observation lists managed offline on iPads.

As a result, the mega-project engineers, technicians, and contractors could access up-to-date observation lists at the tip of their fingers, while disconnected, deep underground in stations during construction. Project deficiencies could be addressed, tracked, and closed right onsite – the process was streamlined.

Deploying Colligo Briefcase enabled the subway project team to:

- Provide rich offline access to observation lists items
- Eliminate onerous, paper intensive documentation
- Cost-effectively digitize the closeout process
- Boost productivity onsite for underground contractors
- Improve the timeliness of reporting from weeks to daily



Colligo brings the best of SharePoint into Outlook and everyone's favourite Microsoft 365 apps with easy-to-use and deploy solutions. Our email management, document management, and content management tools help organizations simplify knowledge and records management, enable compliance, and get the most from your SharePoint investment. In business for over 20 years, Colligo is a Charter Member of the Microsoft Content Services Group and a member of the AIIM Leadership Council. www.colligo.com

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