

PROJECT PROFILE

HINTON SCAFFOLD SOLUTIONS



SCAFFOLDING MANAGEMENT SOLUTIONS

Hinton Scaffold Solutions is an organization that provides scaffold erection, dismantling and consulting service with a background deriving from Canada's largest major projects.

PROJECT BACKGROUND

The overarching goal of this project was to streamline data collection within the organization and form a big data set between all their clients. This was achieved through the development of a digital platform for Hinton Scaffold Solutions to improve data collection, analytics, reporting and general management of their scaffold solution projects. The platform includes prototype developments such as a scaffolding management system application, a dashboard, a progress report single page application, Xalt tenant and a mobile restful react-node-express application.

RESULTS

- **SCAFFOLDING MANAGEMENT SYSTEM APPLICATION.** This application is an Internet-of-Things (IoT) management system for large scale construction projects. The framework covers two main fields: requisition and task assignment and material inventory management. The application replaces traditional manual data collection, allowing for more efficient processes and improved analytics.
- **HINTON SCAFFOLD SOLUTION DASHBOARD.** The dashboard solution (above) was developed utilizing Microsoft Power BI. Power BI can collect scaffolding company data whether it is in a cloud or locally and provides efficient access to the data. Benefits of using power BI in Scaffolding Management System include quick and easy access to data, data

search and exploration, insight into data from all types of devices, ability to work across the company, live dashboard monitoring, consolidated clear overview and integration to well-known products such as Excel and database.

- **XALT TENANT.** This application was created using Xalt mobility, which is a cloud-based platform that allows users to create dynamic representations of the database in the form of charts and PDFs.
- **MOBILE RESTFUL REACT-NODE-EXPRESS APPLICATION.** This application is a mobile web application made to be used by the foreman on site. The features provided include:
 1. Requisition requests
 2. Modifications to the scaffold structure and associated tasks
 3. Provide notes for upper management
 4. Track inspections and materials for ongoing projects
 5. Real time notifications for project managers for requests from the field
 6. Up to date data management and retrieval

RECOMMENDATIONS

Moving forward, the developer team is working on machine learning algorithm-based decision support systems to help the industry partner perform predictive analytics. The developed systems are expected to bring business insights to the industry partner and increase transparency in their operations. The methodologies and systems can be applied generically with other similar scenarios.