Devsinc

A UAE Infrastructure Group Gains Real-Time Control Over Site Progress and Costs

How Devsinc built a mobile app that connects daily site diaries, photo proof, and cost tracking to Dynamics 365.





Client Overview

The client is a UAE infrastructure group founded in 2000, working across landscaping and irrigation, water bodies, infrastructure and digital services. With projects running across the GCC, the group manages crews, equipment and budgets across many sites at once. Devsinc delivered this engagement with QZ Infomatics, the group's technology partner, to build its site productivity app and platform.

Business Challenges

The group's site operations ran across many projects, crews and systems, and the gaps showed up in every daily report. Taking site reporting to mobile exposed five demands.

Paper Reports Delaying Decisions

Foremen and timekeepers captured progress manually, so records reached project managers late and with gaps. Approvals stalled, and decisions were made on yesterday's picture of the site

Missing Proof Delaying Claims

Without time-stamped before and after photos, completed quantities were hard to verify. That weakened evidence for approvals and exposed the group in disputes with clients.

Double-Booke d Resources Inflating Hours

The same worker or machine could appear on more than one activity at once. Hours were overstated and real utilization could not be measured.

Late Budget Visibility Letting Overruns Grow

Labour and plant costs were not tied to sub-activity budgets as work happened, so overruns surfaced after the fact, when they were harder to recover.

Disconnected Systems, Unreliable Data

Project and BOQ data sat in Dynamics 365 F&O, employees in HRWorks & equipment in Transmech. Teams re-keyed between them, & mismatched master data undermined every report.

The Approach

Devsinc began with a kickoff and requirements walkthrough, finalised the technical architecture and designed all major mobile and web screens for client sign-off, while setting up the backend, role-based access, API contracts and CI/CD pipelines. The build then ran in agile sprints of two to four weeks across two milestones, with the mobile capture flows, facial recognition and web approval modules first, followed by dashboards, reporting, monitoring and the three system integrations. Each milestone ended with full QA and a review with QZ Infomatics and the group, and the engagement closed with user training, UAT, production deployment and a four-week hypercare period.





Scope of Engagement

The group, through QZ Infomatics, required a mobile app for its site teams and a web portal for project, finance and executive users, connected to the group's existing systems. Devsinc was engaged to design, build and launch both.

Key Priorities Included:

- A cross-platform React Native app for iOS 15+ and Android 9+, used by foremen, timekeepers and site engineers.
- Daily capture at sub-activity level, with mandatory before and after photos, unit-validated quantities and a digitally signed Daily Site Diary.
- Labour assignment by facial recognition and plant by QR code, with duplicate-assignment prevention and geofenced project access.
- A web portal for approvals, BOQ import, an exceptions console and cumulative quantity entry with a full audit trail.
- Dashboards and drill-down reports from entity to Daily Site Diary, with Excel and PDF export.
- Read-only integrations with Dynamics 365 F&O, HRWorks and Transmech, plus UAT, documentation, production deployment and four weeks of hypercare.

The Solution

The platform is a single React Native app and a React web portal on one Node.js backend, so site capture, approval and reporting all work from the same data.

Capture and Control on Site

Site teams pick a project, activity and sub-activity with smart search, add labour by face recognition and equipment by QR code, and start work with a before photo. They finish with an after photo, a unit-validated quantity and a signed Daily Site Diary. Geofencing limits project access to people actually on site.

Rules, Approval and Audit

A rules engine blocks submissions without both photos, stops one worker or machine being on two activities at once, checks start and stop times and flags geofence overrides. Project managers approve diaries from the web portal, and every quantity change is logged with the user, time and reason.

Dashboards and Integrations

Executives monitor portfolio health, while managers track site diaries, photos, budgets and compliance through Excel and PDF reports. Seamless integration with Dynamics 365 F&O, HRWorks and Transmech keeps project, employee and equipment data aligned across teams.

The outcome: one mobile app and web portal that turn daily site activity into verified, budget-linked data, connected to the systems the group already runs.

The Results

The group now runs site reporting on verified, budget-linked data, with project, finance and executive teams working from the same live picture of every site.

Real-Time Site Updates

Foremen and timekeepers now record progress on the app, and a digitally signed Daily Site Diary has replaced manual reporting, so project managers receive complete records in one format

Accurate Resource Hours

Duplicate assignments are blocked, so no worker or machine is double-booked, and labour and plant utilization is now measured accurately.

One set of master data

Projects and BOQ from Dynamics 365 Finance and Operations, employees from HRWorks and equipment from Transmech now sync into the platform, ending re-keying between systems.

Photo-verified quantities

Every quantity is now backed by mandatory, time-stamped before and after photos, giving approvals and client claims reliable evidence.

Real-Time Budget Visibility

Labour and plant costs are tied to sub-activity budgets, and budget-versus-actual reports let managers spot overruns while they can still be recovered.

Audit-ready accountability

Every quantity change is logged with user, time and reason, and managers drill from project to Daily Site Diary and its photos.

Tech Stack

Mobile

1- **React Native (Expo EAS):** one codebase for the iOS and Android apps.

2- **React-native-vision-camera and react-native-image-resizer:** photo capture and upload-friendly images.

Data and Cloud

1- **PostgreSQL:** system of record for projects, activities, diaries and audit trails.

2- **Amazon S3:** secure photo storage with signed URLs.

3- **AWS (ECS Fargate, Cognito, WAF, CloudWatch):** hosting, authentication, protection and logging.

Web and Backend

1- **Next.js (React), TanStack Query & Tailwind:** the admin and reporting portal.

2- **Node.js with Fastify:** backend services behind a single API entry point.

3- **REST, OpenAPI & Zod:** documented, validated APIs shared by mobile & web.

Integrations

1- **Dynamics 365 F&O, HRWorks and Transmech:** project, labour and equipment master data.

2- **Facial recognition engine:** matches captured faces to employee records for fast labour assignment.

Testing and Release

1- **GitHub Actions and Docker:** automated builds and deployments across dev, QA and production.

2- **Sentry:** error and performance monitoring across mobile, web and backend.



Looking Ahead

Because the platform is built on a documented API and a modular backend, it will grow with the group: more projects and subsidiaries can be onboarded, offline capture for low-coverage sites, a Power BI connector for group reporting, and two-way integrations that write approved progress back to Dynamics 365.

Let's talk about building scalable, cross-platform mobile apps tailored to your business needs

Book a Consultation with Devsinc's engineering team.

About Devsinc

Devsinc is a global technology partner helping enterprises across North America, the UAE, APAC, and the wider MENA region turn technology into a competitive and lasting growth advantage. With 15+ years of experience, 3,000+ successful projects, and 230+ active clients across 23 countries, we bring together deep engineering expertise, platform capabilities, and proven delivery to help businesses modernize, scale, and build what comes next.

Our capabilities span Application Engineering, Data & AI, Enterprise Applications, Staff Augmentation, and end-to-end digital transformation, enabling us to take organizations from strategy through execution. We build custom digital products and connected technology ecosystems while helping enterprises maximize the value of their existing platforms.

As a Microsoft, Salesforce, and Shopify partner, we combine platform expertise with custom engineering to modernize enterprise applications, extend CRM and ERP capabilities, transform commerce experiences, and build new digital products. We also help organizations identify high-value opportunities for AI and embed intelligence into the products, applications, and workflows that drive their business.



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