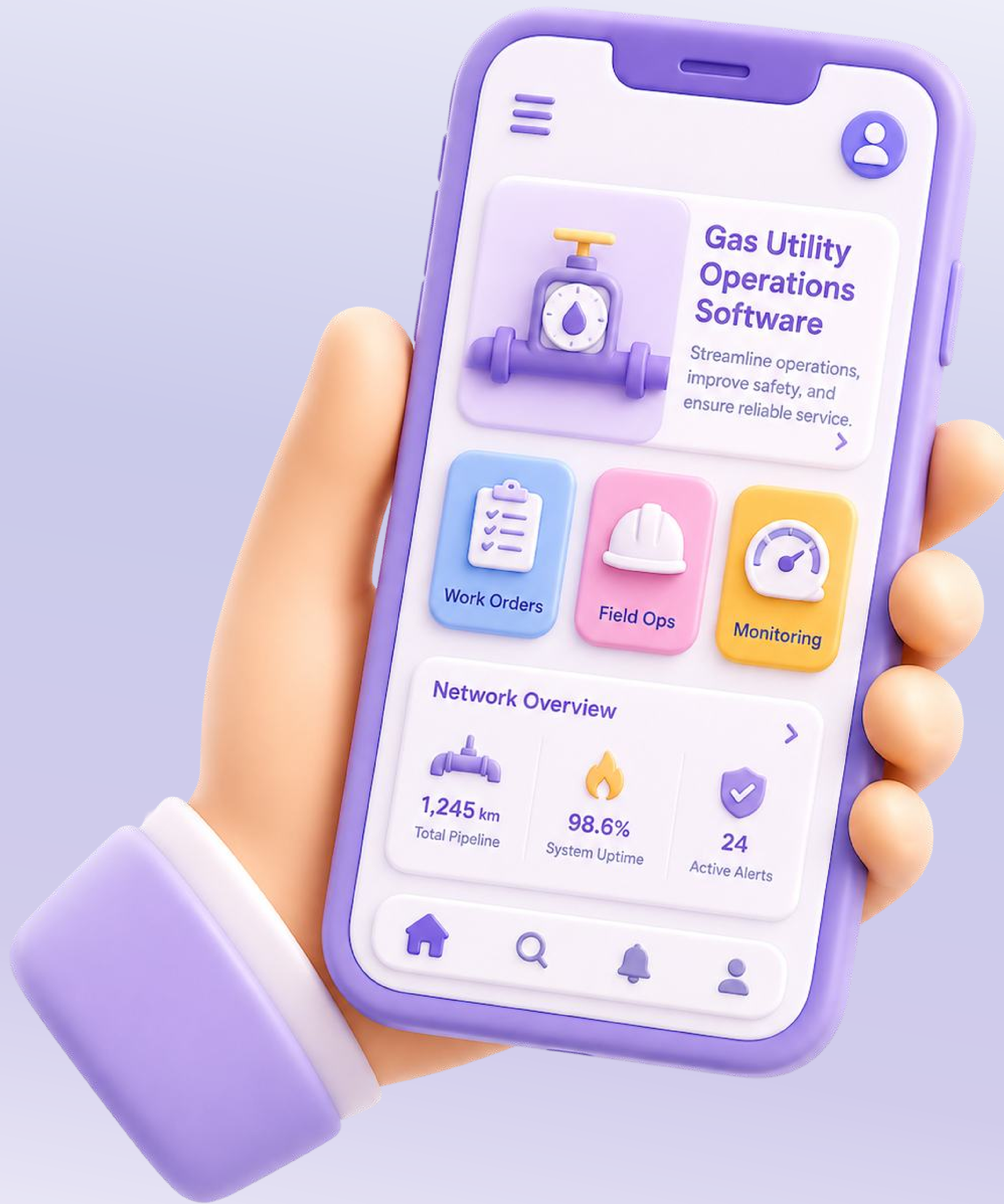




CASE STUDY

How Go.js Helped Transform Field Work Orders into Visual Execution Workflows for GasOps



Project Overview

Client

GasOps

Solution

- Interactive Work Order Sketch module — drag-and-drop visual execution plans integrated directly into the GasOps platform

Industry

- Gas Utility Operations Software

Timeline

- Prototype: 3–4 weeks
- Full implementation: 10–12 weeks
- Ongoing enhancements

Tech Stack

- GoJS · JavaScript / jQuery · ASP.NET / C# · SQL Server · REST APIs

Team Composition

- Frontend Developers — GoJS + UI + drag-and-drop interaction logic
- Backend Developers — API integration + data persistence
- QA Engineer
- Business Analyst — domain workflows and sketch type requirements



The Situation

GasOps is a software platform built for gas utility field operations — managing work orders across pipeline distribution, excavation, leak response, and restoration.

Field crews work in high-stakes environments where the margin for error is narrow, and the cost of getting something wrong isn't just operational — it's a safety issue.

The platform handled the logistics of work order management. What it couldn't do was give field crews a clear picture of what to execute on-site.

The Problem

Instructions came as text descriptions, static drawings, and manually produced PDFs — none interactive, none connected to live data, none updatable in the field.

Field technicians and contractors were arriving on-site and interpreting what to do, rather than executing against a clear plan. Pipeline layouts, excavation zones, leak locations, restoration sequences — these are spatial problems. A text field and a PDF weren't solving them.

The result: frequent clarification requests, execution errors, rework, and documentation that was incomplete by the time it needed to matter — during an audit, an inspection, or a safety review.

Why It Mattered

In gas utility operations, a miscommunicated pipeline layout or an incorrect excavation boundary isn't a rework ticket — it's a safety incident. Documentation gaps don't just slow down operations; they create liability.

GasOps had tried to work around the problem with static drawings and manual sketches. But they couldn't be updated once they left the office, weren't tied to the work order record, and required interpretation rather than delivering clarity.

Every week the gap persisted was another week of compounding risk: more errors, more rework, more coordination overhead that shouldn't have been necessary.



The Solution

Athenaworks designed and built the Work Order Sketch module — an interactive, system-integrated visualization tool embedded directly into GasOps's platform.

The core of the build was GoJS, a JavaScript library engineered for interactive diagram creation. It supports drag-and-drop palette design, real-time node-and-link rendering, grouping, zoom, and data binding out of the box — everything needed to represent gas infrastructure spatially and accurately. Building a custom solution would have added months of development and long-term maintenance complexity. GoJS delivered the capability without that overhead.

The module supports four sketch types — Distribution, Cut Sheet/Opening, Restoration, and Leak — each built with reusable templates for domain-specific components. Field users assemble an execution plan via drag-and-drop, move it through draft and final submission states, and access or edit it at any point.

Every sketch is saved via REST API to a centralized SQL Server backend, creating a permanent, auditable record linked to its work order. The integration was direct and deliberate — sketches live inside the work order, not beside it. That distinction is what changed the workflow.





The Results

After launch, the operational impact was immediate:

- Field clarification requests dropped by a 40–50%
- Work order execution time improved by 30–40%
- Execution errors reduced by roughly 25–35%
- Documentation accuracy improved by an estimated 35–45%
- Adoption was high from day one — drag-and-drop required minimal training
- Audit readiness improved through centralized, retrievable sketch records

Work Order Sketches are now a core component of GasOps operations — integrated across every workflow the platform manages.

The Takeaway

When the gap between what the office plans and what the field executes is a safety risk, clarity isn't a nice-to-have — it's the product. Athenaworks turned a text-heavy, disconnected process into a visual, system-integrated execution tool that field crews could trust from day one.

Contact Us

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