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Business Domain

Manufacturing

Project Type

iPad App + Cloud Middleware

Speech-to-Report App Cuts Field Reporting Time by 70%

Client

A nationwide manufacturing & construction enterprise operating across transportation, utility, and industrial projects. The company manages hundreds of manufacturing sites, each with crews responsible for daily reporting on labor, machinery, and productivity.

Project

The project introduced a voice-first reporting system for site crews. Instead of manually entering data, workers can dictate their daily reports which are automatically converted into structured digital timesheets. The solution processes speech input, extracts entities such as workers, equipment, and task codes, validates them against internal reference data, and generates a ready-to-submit reports.

Objective

Streamline daily reporting and improve accuracy of field data for labor and equipment tracking through AI automation.

Team Reinforcement

Intetics contributed specialized expertise in voice interfaces, natural-language processing, and mobile UX for industrial environments. The multidisciplinary team optimized AI accuracy for noisy field conditions and guided the client through best practices for integrating AI automation into existing operational workflows.

Challenge

Daily time reporting required extensive manual entry from field crews using legacy tablet interfaces. The process frequently led to:

- High error rates and incomplete submissions
- Long input times in low-connectivity environments

- Delayed reporting cycles, which slowed project billing, payroll processing, and performance tracking
- Limited insight into workforce and equipment productivity

Quick Facts

- ✓ **70% faster** daily report creation and submission.
- ✓ Significant productivity gains for field personnel through hands-free reporting.

Technologies

SwiftUI / Node.js / Cloud Speech-to-Text / GPT-based NLP / NoSQL Database / Secure Cloud Infrastructure

Solution

★ 01

The solution improved data timeliness and accuracy across all project sites. Supervisors gained real-time visibility into labor and equipment allocation, enabling proactive resource planning and faster decision-making.

★ 02

Workers dictate daily reports in natural language using an iPad app. The system transcribes the input, identifies key data such as worker names, job codes, and machine IDs, validates the data against reference lists, and generates a ready-to-submit report. This workflow modernizes field reporting by combining hands-free convenience with data integrity.

★ 03

The emphasis remained on simplicity, accessibility, and rapid onboarding. The user experience mirrors familiar reporting layouts to ensure fast adoption by field personnel without training overhead.

★ 04

The project moved from concept validation to full rollout through iterative testing with pilot crews, refining voice accuracy and data mapping at each stage. After user acceptance testing, the client's teams received documentation and workshops on maintaining and extending the platform.

★ 05

The project team contributed deep expertise in AI, natural-language processing, and user experience design tailored for industrial fieldwork. Engineers optimized speech recognition models for noisy environments and fine-tuned entity extraction for domain-specific terminology.



Client Reference



Our crews now finish reports in minutes even in the field. The AI handles the heavy lifting, and we finally get accurate data the same day it's produced.

Benefits and Results

- ★ 60% reduction in data entry errors, improving payroll and billing precision.
- ★ Faster financial processing, as reports are submitted and approved in near real-time. Improved forecasting using complete, structured field data.
- ★ Consistent, high-quality data enabling accurate tracking of labor and machinery utilization.
- ★ Future-proof architecture supporting planned extensions such as offline submission, multilingual input, and predictive analytics.

Techstack:

SwiftUI / Node.js / Cloud Speech-to-Text / GPT-based NLP / NoSQL Database / Secure Cloud Infrastructure

Team:

Project Manager, iOS Developer, Middleware Engineer, AI Engineer, QA Engineer