

## Executive Summary

Enhancement initiative for the “MediDispense” IoT ecosystem: Development of a Progressive Web App (PWA) that enables clinicians to instantly read medication supply levels and logs by scanning a QR code on the physical medical device.

## Product Overview

This extension bridges the gap between our physical infusion pumps/dispensers and the digital audit trail. It allows authorized staff to access real-time data on their mobile devices without installing native apps or logging into a desktop station.

## Current Product Context

Currently, verifying medication supply or reviewing dispense history requires navigating a small, low-resolution screen on the device itself or manually exporting logs via USB/Wi-Fi to a central station, causing workflow friction.

## Problem / Opportunity

Nurses and caregivers waste critical time manually checking device screens to verify dosages or supply levels. This friction leads to delayed refills and potential documentation errors during shift changes.

## Solution Vision

Implement a dynamic QR code generator on the device screen (or a static secure QR label). When scanned with the new PWA, it securely authenticates the user and displays a real-time dashboard of that specific device’s status, battery life, and medication volume.

## Value Proposition

### Primary Value

Instant visibility into device status and supply chain transparency at the point of care. ## Target Users Clinical Nurses, Home Health Aides, Hospital Pharmacy Technicians. ## Differentiators No app store download required (PWA); offline-first capability for syncing data later; HIPAA-compliant ephemeral sessions.

## Target Audience

### Personas

Lead Nurse, Bio-Medical Technician. ## Market Segment MedTech Hardware / Hospital Information Systems (HIS). ## Pain Points Screen fatigue from small device displays; slow inventory rounds; difficulty auditing manual dispense logs.

## Objectives & KPIs

### Business Objectives

Improve user retention by improving the UX of the hardware ecosystem; reduce hardware support calls related to UI navigation. ## Strategic Alignment Aligns with “Connected Care” initiative to digitize all physical touchpoints. ## Top 3 KPIs - Time-to-information (latency between scan and data load) - Daily Active Users (DAU) of the PWA - Reduction in stockout incidents

## Risks & Assumptions

### Key Risks

Mobile connectivity dead zones in hospitals; camera permission friction in mobile browsers; security vulnerabilities in QR token generation. ## Assumptions Hospital IT policies allow the use of mobile browsers for clinical data; staff carry mobile devices (tablets/phones) during rounds.