

Product Requirements Document (PRD)
Fake Drugs Detection + QR Verification (Supply Chain)
Product Name: MedSure (working title)
Version: v1.0
Date: 2026-01-28

1) Overview

Problem: Counterfeit medicines kill people.

Solution: Each medicine batch gets a blockchain-backed Batch ID. Scan QR to verify origin and expiry.

2) Target Users

- Patient/Consumer
- Pharmacist/Clinic Staff
- Distributor/Wholesaler
- Manufacturer
- Regulator/Inspector

3) Key Use Cases

- Consumer scan verification
- Pharmacy receiving stock
- Manufacturer batch registration

4) Core MVP Features

1. Batch Registration (Manufacturer Portal)
2. QR Scan Verification (Mobile/Web)
3. Supply Chain Event Logging (append-only)
4. Fraud Detection Signals (rule-based)
5. Admin/Regulator Dashboard

5) Functional Requirements

- QR payload: secure URL preferred
- Verification: exists, not expired, not recalled, metadata match
- Roles & permissions: consumer read-only; others write events

6) Non-Functional Requirements

- Response time <2 seconds
- Uptime 99.5%+
- TLS + encryption + audit logs
- Scalable to millions of scans/day

7) Blockchain (High-Level)

- Permissioned blockchain recommended
- On-chain: batch facts + event hashes
- Off-chain: documents + analytics

8) Data Model

- Batch
- SupplyChainEvent
- ScanLog

- Report

9) KPIs

- # manufacturers onboarded
- # batches registered
- invalid scan rate
- time-to-alert for suspicious scans