

Executive Technical Debt Report

Demo Factory

Generated: November 11, 2025

Comprehensive Analysis: Code Quality • AI Detection • Security Audit



Technical Debt Ratio

76.1%

Security Posture

40

AI-Generated Code

82%

Executive Summary

 Technical Debt Ratio

76.1%

 Code Quality Score

10

 Security Posture

40

 Defect Density

27.19/1K LOC

Critical Actions Required

- 6 critical issues need immediate attention
- Estimated 146 hours to address technical debt
- 6 security vulnerabilities identified

Key Performance Indicators

DORA Metrics

Deployment Frequency	Monthly
Lead Time for Changes	<1 day
Change Failure Rate	50%
Time to Restore Service	<1 hour

Developer Productivity

Velocity Trend	-9.090909090909092%
Impact Level	Critical
Focus Time	0%
Team Satisfaction	0/100

Business Impact

Estimated Financial Cost	\$21,825
Time to Remediate	146 hours
Critical Path Risk	100/100
Customer Impact Score	70/100

AI Code Detection Analysis

AI Code Detection Summary

AI-Generated Code

82%

Detection Confidence

86%

Risk Assessment

HIGH

File Classification

AI-Generated Files

9 files (81.8%)

Human-Written Files

0 files (0.0%)

Mixed/Uncertain Files

2 files (18.2%)

Top AI Patterns Detected

- ai signature (12 occurrences)
- generic comments (8 occurrences)
- repetitive structures (7 occurrences)
- uniform function length (3 occurrences)
- high keyword density (3 occurrences)

Risk Assessment

Security Risks



Maintenance Risks



Quality Risks



Security & Dependency Audit

Security Summary

Total Vulnerabilities

0

Critical Issues

0

Outdated Packages

4

Outdated Dependencies

@types/node	20.19.24 ! 24.10.0
marked	11.2.0 ! 17.0.0
pdfkit	0.15.2 ! 0.17.2
zod	3.25.76 ! 4.1.12

#np Estimated Remediation Time

1.0 hours

Strategic Recommendations

HIGH

Address Critical Security Issues

Immediately remediate 6 critical security vulnerabilities to prevent potential breaches.

Timeline: 1-2 weeks | Impact: High

HIGH

Reduce Technical Debt Ratio

Current TDR of 76.1% exceeds industry standards. Allocate 20% of sprint capacity to debt reduction.

Timeline: 3-6 months | Impact: High

MEDIUM

Improve Test Coverage

Increase test coverage from [object Object]% to at least 80% to reduce defect density.

Timeline: 2-3 months | Impact: Medium

MEDIUM

Review AI-Generated Code

82% of code appears AI-generated. Implement code review guidelines for AI-assisted development.

Timeline: 1 month | Impact: Medium