Executive Technical Debt Report

demo-factory

Generated: November 11, 2025

Comprehensive Analysis: Code Quality • AI Detection • Security Audit

10

HEALTH SCORE

NEEDS ATTENTION

Technical Debt Ratio	Security Posture	AI-Generated Code
83.5%	**40**	**82%**

Executive Summary

Technical Debt Ratio	Code Quality Score
83.5%	**10**

Security Posture	Defect Density
40	**28.51/1K LOC**

Critical Actions Required

- 8 critical issues need immediate attention
- Estimated 160 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	**$24,065**
Time to Remediate	**160 hours**
Critical Path Risk	**100/100**
Customer Impact Score	**60/100**

AI Code Detection Analysis

AI Code Detection Summary

AI-Generated Code
82%

Detection Confidence
86%

Risk Assessment
HIGH

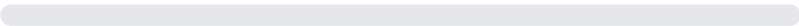## File Classification

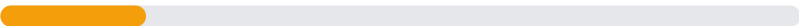AI-Generated Files   9 files (81.8%)

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)
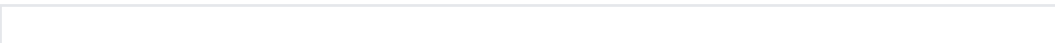
Risk Assessment

Security Risks

Maintenance Risks

Quality Risks

Security & Dependency Audit

Security Summary

Total Vulnerabilities	Critical Issues	Outdated Packages
0	**0**	**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Outdated Dependencies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

#ñþ Estimated Remediation Time
1.0 hours

Strategic Recommendations

HIGH ### Address Critical Security Issues

Immediately remediate 8 critical security vulnerabilities to prevent potential breaches.

Timeline: 1-2 weeks | Impact: High

HIGH ### Reduce Technical Debt Ratio

Current TDR of 83.5% 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